

#### Abstract:

Pear fruit possess highly distinctive flavor due to their specific volatile organic compounds. The present research was mainly aimed at characterising the volatile profile of 'Harrow Sweet', a fire blight resistant pear cultivar, by using the dynamic headspace method. Volatiles in the headspace of 2 L glass jars, each containing 600-800 g of sliced pear fruits, were trapped on graphitized carbon adsorbent traps, thermally desorbed and analyzed by gas chromatography-mass spectrometry (GC-MS). Over 80 compounds were detected at a wide range of concentrations and molecular weights. The volatile profile was characterised by compounds grouped as esters, aldehydes, ketones, alcohols and hydrocarbons. Esters comprised the largest portion (more than 80%) of volatiles emitted by the pear fruits. The decadienoate esters, which have been reported to be responsible for the 'Bartlett'-type flavor, were also detected. Changes in the headspace volatile constituents of 'Harrow Sweet' pears under different storage and ripening conditions were also analyzed in order to simulate consumer's in-house handling practices. A comparison with the volatiles released by sliced 'Bartlett' pears was also carried out.