
BOOK OF ABSTRACTS



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STRAWBERRY TEXTURE PROFILING: NEW PARAMETERS TO PHENOTYPE IT

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AUTHORS:

Paolo Martinatti, Fondazione Edmund Mach; (presenting author)
Lara Giongo, Fondazione Edmund Mach
Paolo Loretto, Fondazione Edmund Mach
Matteo Ajelli, Fondazione Edmund Mach
Paolo Zucchi, Fondazione Edmund Mach
Brian Farnetti, Fondazione Edmund Mach
Fabrizio Costa, Fondazione Edmund Mach

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During ripening, one of the most relevant changes of strawberry, a non-climacteric fruit, is represented by the loss of fruit firmness. In strawberry, the softening process occurs very rapidly, thus limiting post-harvest storability and causing severe quality decay. Textural attributes vary significantly within strawberry cultivars and these are largely affected by both genetic background and environmental-growing factors. To support future breeding programs addressed to improve strawberry fruit texture, a texture analyser was employed to improve the phenotyping resolution and dissection of the fruit texture complexity. An efficient phenotyping strategy is essential for a reliable and focused QTL mapping towards the identification of genomic regions involved in the texture multi-traits control in strawberry, nowadays facilitated by the availability of high dense genetic maps and ad hoc segregating populations. The texture profiling technology was employed in order to assess the texture dynamics during strawberry fruit development as well as at ripening and post-harvest in three short day responsive cultivars, such as Elsanta, Darselect and Candonga. In a second phase, the reported strategy was further exploited to underline the fruit texture behaviour across different varieties, both junebearing and everbearing. From each mechanical profile, a series of parameters have been defined, in order to better characterize the texture in strawberry. Multivariate statistical approach (Principal Component Analysis) was finally employed to analyse the data set related to the textural parameters and to cluster the distribution of the variability existing among cultivars.