BOOK OF ABSTRACTS

9TH MEETING OF YOUNG RESEARCHERS
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- **10955 | Development of a polymerase chain reaction assay for the specific detection of Citrus aurantium in plant food supplements**

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Plant food supplements (PFS) for weight-loss are very popular, being among the most-well consumed. The aim of this study was to detect Citrus aurantium in PFS, using polymerase chain reaction (PCR)-based methods. For this purpose, teas labelled as containing C. aurantium were commercially acquired. Voucher leaves of C. aurantium and other Citrus spp. (C. sinensis, C. limon, C. medica) were gently provided by Germplasm Banks. Primers were specifically designed in three different genomic sequences, namely RGAs4-6-like gene that encodes a resistance-like protein and two anonymous marker genes of C. aurantium retrieved from NCBI database. DNA was extracted using the commercial Nucleospin Plant II kit. Yield, purity and integrity of extracts were evaluated by UV/Vis spectrophotometry and agarose gel electrophoresis.
PCR assays targeting each gene were optimised using teas and voucher leaves. In silico analyses were performed for each set of primers, evidencing their specificity for C. aurantium. However, in vitro results revealed that amplification was more effective for C. limon than for C. aurantium. After careful data evaluation, it was possible to conclude that the nomenclature among Citrus spp. is not clear, which might explain some misclassification of the NCBI databases entries regarding bitter orange. Other genes encoding different resistance proteins were used for the design of primers and PCR assays are being developed to test their specificity concerning C. aurantium.