

## **FOOD GENOMICS, APPLICATION TO OLIVE OIL TRACEABILITY**

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In Food Genomics, DNA analyses with molecular markers has offered the shortcut towards the genomic comprehension of complex organisms. The availability of micro-DNA extraction methods coupled with selective amplification of the smaller extracted fragments with molecular markers could equally bring to a breakthrough in Food Genomics: the identification of origin and authenticity of foods back to their original components. Molecular markers as Simple Sequence Repeats (SSRs), Single Nucleotide Polymorphisms (SNPs), Amplified fragment length polymorphisms (AFLPs), Sequence Characterized Amplified Regions (SCARs) have been applied in order to trace olive oil, using both qualitative and quantitative PCR. Nevertheless, the direct application of some of these markers in the analysis of DNA extracted from food matrices is complicated by the properties of the DNA extracted: high degradation and richness in inhibitors of enzymatic reactions, so it was important to study their possible use and their limits.