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Poster Abstract – B.14

TRACEABILITY OF OLIVE OIL USING MICROSATELLITES

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Recently, the demand for higher food safety has aroused a great interest in the determination of origin and authenticity of agro-food product, especially for extra virgin olive oil protected by designation of origin (PDO), that are highly related to the cultivars employed and the environmental conditions of growth. Rebuilding the history and following the product in every single ring of the chain is a good tool to protect the consumers, safeguarding the quality of olive oil. Traceability can be successfully performed by SSR molecular markers that permit to trace DNA even when extracted from complex matrix such as olive oil.

The aim of this study was to evaluate the possibility of tracing the genetic origin of monovarietal virgin olive oils using DNA microsatellites. Five SSR primer pairs, were used to characterize the DNA extracted from leaves, drupes, and oils of Pisciottana cultivar. Amplification products were separated on 2% agarose gel and on ABI PRISM 3100 genetic analyzer automated sequencer (Applera).

The allelic profile of DNA extracted from the tissues and oil resulted identical thus confirming that traceability in olive agro food-chain is achievable with a reduced number of SSR loci.