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APPLICABILITY OF SSR MARKERS TO THE TRACEABILITY OF MONOVARIETAL OLIVE OILS

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To protect the features and authenticity of food products, the European Commission enforces two certification labels: Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI). EEC Regulation No. 510/2006 imposes criteria for labelling, production and commercialisation of olive oil.

Since plant genotype is a major determinant in establishing the PDO and PGI labels, methods to ascertain the varieties present in a batch of olive oil are essential in validating product conformity.

The traceability of olive oil can be assessed through simple sequence repeat (SSR) co-dominant markers targeted to specific regions of DNA from olive cultivars.

Twenty-one monovarietal olive oils were analysed with nine nuclear and two shortened SSRs. For each marker the correspondence of allelic profile with the reference cultivar, the reproducibility of profiles in different DNA extractions and the polymorphism information content were determined.

The results showed that using a panel of SSR markers such as those described allows one to make a reliable attribution of an olive oil to a specific cultivar.