

MOLECULAR DISCRIMINATION OF THE GENUS *MENTHA* BY SEQUENCING AND RFLP ANALYSIS OF THE 5S rRNA NON-TRANSCRIBED SPACER (NTS) REGION

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The genus *Mentha* is of particular economic importance. The development of new methods for the characterization of *Mentha* species and hybrids is crucial for their unequivocal identification. By amplification of NTS (Not-Transcribed-Spacer) of the 5S-rRNA gene we characterized the major sexual *Mentha* species and many interspecific hybrids and found a high specific and interspecific variability. Cloning and sequencing of all amplified NTS fragments allowed evaluating similarities and calculate cluster analysis, which confirmed the taxonomic relationship between species and hybrids. In silico and experimental analyses identified specific restriction sites on the amplified 5S-NTS regions facilitating the rapid and unambiguous discrimination of all the different species and hybrids. A specific restriction marker allowed the general characterization of the genus *Mentha*.