SEARCH FOR DIAGNOSTIC TOOLS IN *Fusarium oxysporum* f. sp. *melonis* RACE IDENTIFICATION


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*Fusarium oxysporum* f. sp. *melonis* is the most destructive fungal pathogen of melon in all growing areas. A collection of a total of 39 isolates of *F. oxysporum* f. sp. *melonis*, representative of all four known races (0, 1, 2, and 1,2) was analyzed by several molecular techniques in attempt to characterize the *forma specialis* and the races. The principal target was to discriminate race 1,2, the most virulent and widespread race in Europe and Italy. Microsatellites (SSR and ISSR), and calmodulin partial sequence analysis were unable to discriminate. In turn, minisatellites (M13 and T3B), translation elongation factor alpha partial sequence analysis, and RAPDs allowed to clearly differentiate race 2 isolates from all other races, confirming its polyphyletic origin. Race 1,2 isolates clustered together, with few exceptions, in RAPD analysis using 23 primers out of 89 tested. A unique band was identified which was present only in race 1,2 isolates. The corresponding sequence will be used for specific primers design.