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**ABSTRACT
BOOK**

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Characterization and determination of aggressiveness of isolates of the fungus *Macrophomina phaseolina* identified in cucurbits

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Macrophomina phaseolina (Tassi) Goid. (Mp) is the causal agent responsible for charcoal rot, leading to substantial economic losses in various horticultural crops, particularly cucurbits such as melon (*Cucumis melo* L.), watermelon (*Citrullus lanatus* (Thunb.) Matsumara & Nakai), and squashes (*Cucurbita* spp). This pathogenic fungus is prevalent in tropical and temperate regions globally. In this study, a total of 115 Mp isolates were identified, collected from different cultivation areas of the Iberian Peninsula, specifically from the roots and stems of melon, watermelon, and various rootstocks (hybrids of *Cucurbita* and hybrids between different *Cucumis* species). These isolates were characterized morphologically and by comparison of their ribosomal ITS sequences. This characterization facilitated the selection of a set of isolates based on their morphotype for pathogenicity evaluation. The evaluation was conducted over two years using toothpick inoculation on various resistant and susceptible genotypes of melon, watermelon and squash. As a control, an isolate from a melon field in La Punta (Quatre Carreres, Valencia), previously used by the group in screenings, was employed. This study revealed variability in the aggressiveness of Mp strains species, depending on the isolate used. Notably, isolates capable of inflicting greater damage than the La Punta isolate were identified in every species. Three of the isolates that had greater damage than La Punta on the first year were repeated on the second year. The results obtained will guide the identification of resistance to Mp in different species, using isolates with different aggressiveness in screenings.