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Antagonism of fungi associated with Cerrado orchids against *Magnaporthe oryzae*

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Rice blast, caused by *Magnaporthe oryzae*, is one of the most severe diseases affecting rice, potentially leading to losses exceeding 80%, reducing grain quality, and compromising food security. The increasing resistance of the pathogen to pesticides, along with the environmental impacts associated with the intensive use of fungicides, makes the search for biocontrol agents essential. The Cerrado region of Goiás, recognized for its high biodiversity, harbors orchids associated with symbiotic fungi that remain poorly explored and potentially useful for the control of phytopathogens. The objective of this study was to evaluate the biocontrol mechanisms and the level of antagonism of fungal isolates from Cerrado orchids against *M. oryzae*. In this study, 41 filamentous fungi isolated from *Cattleya walkeriana*, *C. walkeriana* Suprema × Self, and *Epidendrum nocturnum* were evaluated, including two mycorrhizal isolates (CwS1 and CwS3). The isolates were assessed for in vitro antagonism against *M. oryzae* using a dual culture assay in a completely randomized design with 10 replicates. The genera *Paecilomyces* sp. and *Chaetomium* sp. showed the highest antagonistic activity, with inhibition rates above 90% and evidence of mycoparasitism, while the mycorrhizal isolates (CwS1 and CwS3) inhibited *M. oryzae* through antibiosis and mycoparasitism, reaching up to 100% inhibition. The results demonstrate that Cerrado orchids are promising sources of antagonistic fungi, reinforcing the potential of this biome for the development of sustainable bioinputs for rice blast management.

KEYWORDS: Goiás Cerrado, mycorrhizal fungi, endophytic fungi, rice blast.