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Screening of 44 cowpea accessions in greenhouse for resistance to charcoal rot.

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ABSTRACT

Objective: The use of resistant cultivars is the appropriate solution to control cowpea charcoal rot caused by the fungus *Macrophomina phaseolina*. However, these cultivars are not widely available. This study aims to assess the status of 44 cowpea accessions from Burkina Faso germplasm for resistance to charcoal rot.

Methodology and results: Seeds were sown on a substrate inoculated with an *M. phaseolina isolate,* in the presence of a control. Data collected included emergence, pre- and post-emergence damping-off, and disease severity, assessed 8, 21, and 45 days after sowing, respectively. Results revealed that at Logofrousso , entry recorded the lowest pre-emergence damping-off rate (8.33%). No dead plants were noted on eight entries, while 23 simultaneously recorded between 5 and 26% mortality. According to disease severity, only one entry (Kvx414 22-72) was resistant, 13 moderately resistant, 19 moderately susceptible, and 11 susceptible.

Conclusion and application of results: Sources of resistance were identified at the end of this study. They could be directly used by producers or used in the breeding program to improve the resistance of existing varieties or create new varieties resistant to charcoal rot.

Keywords: cowpea; charcoal rot; *Macrophomina phaseolina*; resistant cultivars; Burkina Faso.