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RELATIVE EFFICACY OF LONG-TERM STORAGE METHODS ON SURVIVAL AND VIRULENCE OF *CORYNESPORA CASSIICOLA* AND *PHYTOPHTHORA MEADII* PATHOGENIC ON RUBBER (*HEVEA BRASILIENSIS*)

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Corynespora cassiicola and *Phytophthora meadii*, the economically important pathogenic fungi of rubber (*Hevea brasiliensis*), were preserved with six different storage methods *viz*. continuous growth method, immersion in sterile distilled water, desiccation on filter paper, desiccation in soil, cryopreservation and lyophilization. Survival was evaluated 1, 3, 6, 9, 12, 18, 24, 36 and 48 months after storage. Immersion in sterile distilled water was found to be the best method for long term storage of both the test fungi with a revival rate of 71 and 62 per cent for *C. cassiicola* and *P. meadii*, respectively. *C. cassiicola* also survived well in cryopreservation and desiccation methods. It was significant to note that preservation through continuous culturing eroded the virulence of *C. cassiicola* over a period of time. In contrast, all other preservation methods sustained post-storage virulence of the pathogen, which is of high value for tissue based germplasm screening against Corynespora leaf disease. Immersion in sterile distilled water was the only method which could support the survival of abnormal leaf fall pathogen *P. meadii* and preserve its post-storage virulence. Therefore, this method could be used as efficient and cost effective preservation method for both the pathogens under study, without losing their pathogenicity.

Keywords: *Corynespora*, Fungal culture maintenance, Long-term preservation, *Phytophthora*

INTRODUCTION

Plant pathogen culture collections akin to libraries of genotypic and phenotypic diversity of previously studied pathogens are invaluable resources for advancing future research in plant pathology. Preserving relevant pathogen isolates from past disease epidemics is similar to archiving key documents needed for understanding an important historical event. Further, reference cultures with phenotypic and genotypic identification tags can facilitate the identification and control of new disease outbreaks. The underexplored pathogen diversity in nature highlights the importance of preserving and cataloguing pathogen cultures for future

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