



## PREVALENCE OF NURSERY DISEASES OF *MAGNOLIA CHAMPACA* IN MIZORAM, NORTH EAST INDIA

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**ABSTRACT:** An extensive disease survey in different nursery raised by forest department in eight districts of Mizoram was carried out during 2017-18 to assess the disease incidence of *Magnolia champaca*. Three different diseases viz., *Colletotrichum* leaf spot and blight, damping off and die back caused by *Colletotrichum gloeosporioides*, *Fusarium oxysporum* and *Fusarium solani* respectively, were identified to cause moderate to severe losses in nursery. The data recorded during the survey revealed that disease incidence of leaf spot and blight in *M. champaca* varied from 13.67-91.00 per cent while in case of damping off of *M. champaca*, it varied from 9.30-78.38 per cent. Furthermore, the study also reveals that the die back disease was also prevalent in the nursery ranges from 8.00-37.65 per cent. Based on the disease incidence, leaf spot and blight were identified as a major disease in the nursery. The pathogenicity test carried out for one of the major diseases revealed that an incubation period of 21 to 25 days was required to initiate the typical symptoms of leaf spot and blight of *M. champaca*.

**Keywords:** Damping off, disease incidence, die back, leaf spot, *Magnolia*, pathogenicity

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### INTRODUCTION

*Magnolia champaca* (L.) Baill. ex Pierre, commonly known as Champa is an evergreen tree, native to the Indomalaya ecozone. It is primarily cultivated for its timber, which is used for construction of buildings, furniture, toys and carvings and is also used in urban landscaping. Its aril-covered seeds are highly attractive to birds. The plant is also a reservoir of numerous active principles and secondary metabolites and is often widely used traditionally for indolent swellings, fevers and in nervousness. It is a very tall tree that

grows up to 30 m in height. In Mizoram it is one of the most economically important timber species (Orwa *et al.*, 2009). However, its production in the nurseries raised by the Mizoram Forest department is hampered due to the different soil born and other aerial diseases. As observed in the field survey, due to monoculture and non-rotation of the nursery sites the pathogens became fully established and caused the huge mortality of the growing young seedlings (Personal observations). These seedlings are particularly susceptible to several diseases because of their tender tissues as they often have difficulty in establishing