

AN *IN VITRO* ANALYSIS OF RRII 400 SERIES RUBBER CLONES, OTHER HOSTS AND COMMON FUNGICIDES AGAINST TWO VIRULENT ISOLATES OF *CORYNESPORA CASSIICOLA* FROM *HEVEA BRASILIENSIS*

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Corynespora leaf fall disease (CLFD) is a significant fungal disease affecting rubber trees (*Hevea brasiliensis*), caused by the pathogen *Corynespora cassiicola*. This disease leads to premature leaf fall, impacting rubber production and causing considerable economic losses in rubber plantations. *C. cassiicola* exhibits high genetic diversity, possessing various pathogenic isoforms that vary in virulence and host specificity. Management of CLFD involves integrated approaches, use of resistant clones, prophylactic chemical fungicide approaches and cultural practices. Understanding the genetic and pathogenic diversity of *C. cassiicola* isoforms is crucial for developing effective control strategies and breeding programs to mitigate the effect of CLFD on *H. brasiliensis*. The current investigation was conducted to assess the *in vitro* impact of two virulent isolates of *C. cassiicola* (HV and M9) belonging to different isoform categories towards the popular RRII 400 series rubber clones and a few other selected hosts. The fungicide sensitivity of the two virulent isolates was also tested with recommended fungicides. The results revealed that both isolates, HV and M9, equally infected all RRII 400 series rubber clones and other hosts, exhibiting the same sensitivity to the tested fungicides. Among the RRII 400 series rubber clones, RRII 422 was identified as susceptible, RRII 417 and RRII 429 as less tolerant, and RRII 414 and RRII 430 as moderately tolerant. No instances of wilting were observed in other host plants treated with the Crude Culture Filtrate (CCF) of M9 and HV. Among the fungicides tested, carbendazim, thiophanate methyl, and SAAF demonstrated 100 per cent growth inhibition of HV and M9 even after 10 days of inoculation.

Keywords: *Corynespora cassiicola*, Crude culture filtrate (CCF), *Hevea brasiliensis*, *In vitro* screening, Isoforms, Virulent isolates

INTRODUCTION

Corynespora leaf fall disease (CLFD) caused by *Corynespora cassiicola* is one of the major fungal diseases of *Hevea brasiliensis* recorded in major rubber growing countries of Southeast Asia and Africa. First report of

the disease from India was made in 1958 (Ramakrishnan and Pillay, 1961). In India, the initial occurrence of *Corynespora* leaf fall disease (CLFD) was reported in rubber clones including RRIM 600 and RRIM 622 and in clonal seedlings of Tjir 1. Clone RRIM 600