



SCREENING OF HEVEA CLONES AGAINST CORYNESPORA LEAF FALL DISEASE: THE MOST DESTRUCTIVE FOLIAR DISEASE OF RUBBER

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Corynespora leaf fall disease (CLFD) is regarded as the most destructive leaf disease of rubber plantations in Sri Lanka. The disease is caused by the fungus *Corynespora cassiicola*. This disease caused several global epidemics and Sri Lanka was seriously affected. During the first epidemic, this disease devastated one of our prestigious clones RRIC 103 and we lost more than 4500 ha. At that time three options were given: the first was to graft at the base or for the crown, the second was chemical control but the growers accepted the third option: uprooting and replacing with disease resistant clones. Since then steps were taken to screen the clones intensively to identify Corynespora resistant / susceptible clones. Throughout the recent past, RRISL was in a position to avoid many disease susceptible clones due to the adoption of below screening protocol. Rubber Research Institute recommends the clones under three groups based on their performance on various primary and secondary characters. After evaluation, clones were included to group III and then, the promising clones are upgraded up to the group 1. The evaluation of clones against Corynespora is first done under laboratory level using conidia or artificially prepared toxic metabolites. Then the clones are tested in bud wood nursery type of experiments where the test clones are grown mixed with highly disease susceptible clones. Furthermore, the clones are evaluated for Corynespora under natural field conditions. The test clones are observed for both disease incidence and severity levels – Average Disease Severity Index (ADSI). Analysis of the results from three test methods during the period of year 2012-2014 showed that 80.64% of the clones in the recommendation list can be ranked as resistant. The percentage of highly susceptible clones was 6.45% and they have been already removed from the list of clonal recommendation. The clones identified as moderately or mildly susceptible were downgraded in the recommendation list and were monitored for the disease severity levels. The cultivation of resistant clones with a wide genetic base is considered as the most reliable long-term solution for the management of CLFD. The findings will be helpful in environ-max planting systems and for future breeding programmes.

Keywords: *Corynespora Leaf fall disease, clonal screening, conidia, toxin*