

Complex Circular Leaf Spot (CCLS) Disease Detection in Malaysian Rubber Plantation

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Abstract. To date, a new leaf spot disease of rubber trees has been identified in five rubber producing countries namely Indonesia, India, Malaysia, Thailand, and Sri Lanka with infected leaves exhibiting a circular spot with a brown necrotic lesion. However, no research has confirmed the actual causal pathogen/s of this disease. This study aimed to determine the primary fungal pathogen that causes leaf spot symptoms on matured rubber leaves via in vitro pathogenicity tests. Severity of the infection was graded based on the size of the lesion. Eight treatments were designed for this in vitro pathogenicity test. The wounding technique produced a necrotic lesion on the surface of the leaves as early as three days after inoculation. Wounded leaves inoculated with both mycelial plugs of *Colletotrichum siamense* and *Pestalotiopsis jesteri* produced mean lesion lengths of $12.1 \text{ mm} \pm 1.15^a$ and $6.08 \text{ mm} \pm 0.04^b$, respectively. From the results obtained, *P. jesteri* could be the opportunistic pathogen that infects rubber leaves when they are wounded and is associated with *C. siamense*. Therefore, it is possible to draw the conclusion that *P. jesteri* is the secondary pathogen and *C. siamense* is the primary causative pathogen of the new leaf spot disease in rubber.

ID 9