CELL WALL DEGRADING ENZYMES IN THE COLLETOTRICHUM LEAF DISEASE ON RUBBER

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Colletotrichum gloeosporioides causes the Colletotrichum leaf disease on rubber. This fungus, when grown in medium with pectin as the major source of carbon, produces the pectolytic enzymes, polygalacturonase (PG) and pectin lyase (PL). With carboxy-methyl-cellulose (CMC) as the carbon source, the pathogen produces the cellulolytic enzymes, β 1.4 glucanase and cellobiase.

In infected rubber leaves, PL was first detected three days after inoculation with C.gloeosporioides, and the activity increased thereafter, reaching a maximum on day 5, when well formed spreading lesions were present on the rubber leaf. PG was not detected at any stage during the infection process. Both healthy and infected rubber leaves did not have any inhibitors of the fungal PG. The two cellulolytic enzymes, β 1.4-glucanase and cellobiase were also not in the infected leaves.

These results suggest that the fungus does not produce PG in-vivo and hence PL plays a vital role in the development of the disease.

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