SUMMARY

Conidia of Colletorichum gloeosporioides on agar coated slides germinated within a short period of 3 h. Clusters of secondary conidia were produced in abundance at 24 h, but no appressoria were detected at this stage.

Although, at 3 h, leachate of clone RRIC 100 significantly depressed conidial germination, they germinated equally well in leachates of all clones at 9 h.

Maximum and minimum colony growth was recorded in leachate of clones PB 86 and RRIC 100, respectively. Growth of the fungus in leachate of clone RRIC 52 and 103 was less than that of PB 86 but was more than in RRIC 52. There was a rapid increase in growth from 6 to 9 h in both RRIC 52 and 103, but the increase in growth in RRIC 100 and PB 86 was gradual. Germinating conidia in leachate of clone PB 86 produced significantly more germ tubes than other clones, at 24 h after incubation.

The appressoria were formed around 9 h after inoculation in leachates of all clones, except PB 86. However, by 24 h quite a high percentage of conidia formed appressoria, highest being recorded in leachate of clone RRIC 52.

A solution of Sucrose favoured more fungal growth than Glucose, Fructose and Maltose. Germination of conidia was delayed in a solution of Maltose.

Leaves of clone PB 86 supported the maximum growth of the fungus while the least growth was recorded on clone RRIC 52. However, the progeny of these two clones i.e. RRIC 100 and 103, showed an intermediate type of growth.

The appressoria were first observed on leaves about 6 h after inoculation. They were dark brown and relatively large compared to the conidium. The most number of appressoria were seen in clone RRIC 52 while relatively a few were observed in clone RRIC 100.

Penetration and post-penetration studies revealed that the conidia germinated readily on the leaf surface with appressoria being found along the junctions of the epidermal cells. The infection hypha, formed at the point

where the appressorium contacts the host tissue, penetrates directly into the mesophyll tissues through the epidermis 48 h after inoculation. Well developed acervuli were formed by rupturing the upper and lower epidermal cells at 72 h after inoculation. At this stage, some disorganisation of mesophyll cells was also evident.