

SOME PROPERTIES OF PECTOLYTIC ENZYMES PRODUCED BY
TWO ISOLATES OF COLLETOTRICHUM GLOESPORIODES
PENZ. FROM RUBBER (HEVEA BRASILIENSIS MUELL.-ARG.)

L.K. Senaratna*, R.L.C. Wijesundera*

R.N. de Fonseka* and A. de S. Liyanage**

*Dept. of Botany, University of Colombo

**Rubber Research Institute of Sri Lanka, Agalawatte

Isolate I and Isolate V of the Colletotrichum gloeosporioides from Hevea brasiliensis secreted two pectolytic enzymes, polygalacturonase (PG) and pectin lyase (PL), when grown in a liquid medium with pectin as the major source of carbon. The pattern of secretion of the two enzymes, and the effect of pH, temperature and Calcium ion concentration on their activity were investigated.

A time course study showed a sequential basis of pectic enzyme secretion in both isolates. Polygalacturonase was always detected first, followed by the pectin lyase. The secretion of polygalacturonase and pectin lyase appeared to be related to the pH of the medium.

PG and PL from both isolates had the highest activity at pH 5.8 and 8.0 respectively. The optimum temperature for both the PG and PL from the two isolates was 30°C. The activity of PL was stimulated by Calcium ions and at 5×10^{-4} M Calcium ion concentration the enzyme had maximum activity. Calcium ion concentration above 1×10^{-3} M decreased activity of the PG from both isolates.

The above results suggest that the two pectolytic enzymes secreted by the two isolates of the fungus are identical.

Funds for this project were provided by a UNESCO/UNDP Fellowship and a NARESA grant.

09th Dec. 1987 (Wednesday) 10.15 a.m. - 10.30 a.m.