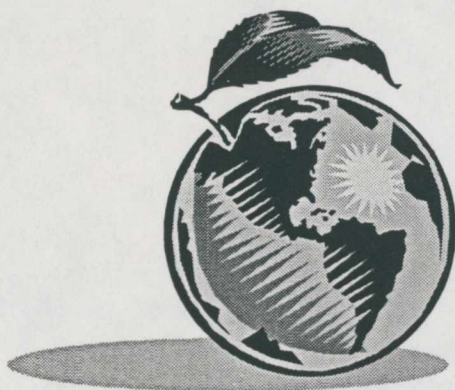


Shirley

LABS 3

Third Latin American Biodegradation & Biodeterioration Symposium



Universidade Federal de

Santa Catarina

Reitoria – UFSC

27 – 30 April, 1998

**PRESENCE OF INTRA AND EXTRACELLULAR ENZYMES IN STRAINS OF
ACINETOBACTER SPP, PRODUCED IN DIFFERENT INDUCERS**

Scramin, S.¹; Roque, M.R.A.²; Dentzien, A.F.M.¹; Rosso, C.R.S.¹; Melo, I.S.¹

¹Embrapa Meio-Ambiente, C.P 69, Jaguariúna, SP, 13820-000. Brazil

²FAPESP fellowship

E-mail: scramin@cnpma.embrapa.br

Two *Acinetobacter* spp. strains, denominated D-12 and D-16 (extracted from Diuron™ treated sugarcane rhizosphere) were grown in different substrates in order to determine whether catechol 1,2-dioxygenase (pyrocatechase) and catechol 2,3-dioxygenase (metapyrocatechase) are constitutive or induced enzymes. Extracellular enzymes were also measured. Although biomass was measured, the conditions required for best production of microorganisms were not established. Five different inducers were added to culture media: glucose, sodium benzoate, Diuron™, dichloroaniline and Diuron™ plus glucose. Both strains were harvested by centrifugation and disrupted by sonication for intracellular enzyme extraction. Extracellular enzyme assays were carried out with filtered supernatant. Both strains showed significant catechol 1,2-dioxygenase activity when sodium benzoate was added, but not with other inducers. Significant manganese (MnP) and lignin (LiP) peroxidase activity was observed in all supernatants, except for D-16 in which LiP was not detected with sodium benzoate. Data obtained showed evidence of the inductive nature of catechol 1,2-dioxygenase.