

## Painéis - Biotecnologia Ambiental

### BA-27: ISOLATION OF MUTANTS OF TRICHODERMA HARZIANUM WITH ENHANCED $\beta$ -GLUCOSIDASE PRODUCTION WITH ABILITY TO INHIBIT AND THE PLANT PATHOGEN SCLEROTINIA SCLEROTIUM.

MELO, I.S.1; FAULL, J.L.2; GRAEME-COOK, K.A. 2; FRIGHETTO, R.T.1; SILVA, C.M.M.S.1 1Centro Nacional de Pesquisa de Monitoramento e Avaliação do Impacto Ambiental/ EMBRAPA, Cx. Postal 69, Jaguariuna-SP, 13820-000. 2Birkbeek College, University of London.

Antagonism of *Trichoderma* spp. against other microorganisms in general operates by exolysis, breaking down the walls of fungal pathogens. *Trichoderma* species seem to be the best source of extracellular cellulase that can solubilize highly ordered cellulose. Cell walls of sclerotia of *Sclerotinia sclerotiorum* usually contain chitin and  $\beta$ -glucans. Such sclerotia may be vulnerable to attack by many microorganisms. The objective of this research was the isolation of improved strains for  $\beta$ -glucosidase production. The new biotypes obtained from a wild strain of *T. harzianum* were isolated via UV light in solid medium containing esculin as substrate. Twenty-one mutants were selected and evaluated in liquid media containing wheat-bran. Two mutants produced significant amounts of extracellular cellulase activity with  $\beta$ -glucosidase activity. The percentage of reduction of colony of *S. sclerotiorum* by antifungal activity was observed in vitro. The mutant 15+ presented 73% of inhibition of micelial growth. Hyphae morphology of the mutant strain, studied by SEM, shows that the hyphae tips are extremely branched. The wild-type did not produced any antibiotic activity.