

## Screening of Highly Cellulolytic *Trichoderma* spp. from the Amazon Forest

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### Abstract:

The Amazon forest is the largest biome in Brazil. Its soil harbors a high microbial diversity that participate in the degradation of organic matter and the major nutrient cycling such as in biogeochemical cycles. The breaking of lignocellulolytic compounds by fungi in tropical forests becomes important for carbon cycling and the fungus *Trichoderma* is well know agent of decomposition of organic matter in general, also of cellulolytic substance in particular. This enzyme has high importance because the sugars generated can serve as starting material for the production of second generation ethanol. This study aimed to isolate *Trichoderma* highly cellulolytic species from soil of the Amazon Forest. The demand for more thermostable highly active cellulase is on the increase. The soil sample were collected in 12 sites, with three points in each in the Amazon state. The plate screening assay with TSM medium with carboxy methyl cellulose was used in this investigation. Cellulolytic fungi were evaluated after 7 days for the productivity cellulolytic enzymes by staining with 1% congo red. *Trichoderma* isolates were grouped as high cellulolytic on the bases of cellulose activity compared with the *Trichoderma reesei* strain RUT C-30. A total of 300 cellulolytic *Trichoderma* strains were isolated and about 20% of them showed to be real activity higher than the control. Further, studies are on going to characterize these cellulases, and also characterize the diversity of the producer fungus.

**Keywords:** Amazon Forest, *Trichoderma*, Cellulase.