

**TITLE:**

ISOLATION OF ENDOFITIC MICROORGANISMS OF SABIÁ *Mimosa Caesalpinifolia Benth* AND ITS CAPACITY OF PRODUCTION OF EXTRACELLULAR ENZYMES.

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**ABSTRACT:**

The “Sabiá” (*Mimosa caesalpinifolia* Benth.) Is a legume capable of having microbial relationships that perform functions unique in nature. This microbiota, which interacts positively or negatively with plants, is involved in the regulation of secondary substances, which are decisive for plant health, root growth and growth promoters, N and P nutrition and other nutrients. Soil microbiota is key to the success and success of colonization of a plant, which involves the complexity of local microbial communities. The objective of this project is to identify the endophytic microbial community of the leaves of the native species, 'sabiá' (*Mimosa caesalpinifolia* Benth.), As well as the production capacity of extracellular enzymes of ecological interest. For this, leaves were collected at different heights of sabiá, after the process the vegetal parts were Stored and transported to carry out the disinfection of the epiphytic region. The plant fragments were then deposited on plates containing culture medium and subsequently incubated at 28 ° C for up to 72 hours. After this period the microbial growth was counted and the purification was carried out for subsequent identification of microorganisms by micromorphological techniques. The results showed a prevalence of filamentous fungi of the genus *Fusarium*, *Trichoderma*, *Penicillium* and *Aspergillus*. The most frequent genus was *Trichoderma* and the least frequent was *Penicillium*. For the enzymatic assays the colonies were picked up in Petri dishes containing the specific culture medium for the induction of each enzyme (amylase, lipase and protease). After growth, they were submitted to qualitative tests. The results demonstrated the production of extracellular enzymes. Of 38 isolates for lipase, 68.42% presented production of this enzyme. Of 23 isolates for amylase, 26.08% presented amylolytic activity. Of 25 isolates for protease, 52% were positive for protease. In this way, the legume is an interesting and unique natural reservoir of endophytic fungi capable of secreting enzymes.

**Keywords:** microorganisms, endophytes, leguminous

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