

ANALYSIS OF ISOLATED FILAMENTAL FUNGI GROWTH TEMPERATURE IN DIFFERENT REGIONS IN THE BRAZILIAN STATES OF MINAS GERAIS AND ESPÍRITO SANTO

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ABSTRACT:

Bioprospecting means exploring biodiversity and obtaining genetic resources for commercial purposes and technological development. So this study was conducted to analyze the growth temperature of one hundred and twenty filamentous fungi collected in different regions of Minas Gerais (in the cities Janaúba, Porteirinha, Salinas, Jaíba, Serranópolis, Diamantina and Conceição do Mato Dentro) and Espírito Santo (in Linhares and Regência district). To determine the best growth temperature, the filamentous fungi were punctually inoculated at the center of the Petri dish in solid culture medium containing 4% (w / v) oats and 2% (w / v) bacteriological agar, maintained for 48 hours at temperatures of 30 ° C, 35 ° C, 40 ° C, 45 ° C and 50 ° C. Subsequently, the radius of the colonies was measured to determine the growth rate in centimeters per hour (cm.h-1). It was observed that within a total of one hundred and twenty fungi, the majority presented mesophilic characteristics, that is, they presented better growth rate between 30°C and 35°C, totaling more than 90% of the collected fungal diversity. It is worth mentioning that only ten fungi presented thermophilic characteristics, having the highest growth rate between 40°C and 50°C, as it was verified that some organisms grew preferentially at 30°C and 35°C, but tolerated high temperatures. So it is concluded that, in different regions, which present average differences in annual temperatures, a variability of microorganism can be presented. These micro-organisms may have biotechnological potential, due to the temperatures they tolerate, as well as the possible secondary metabolites they produce.