PRESERVATION OF FUNGI ISOLATED FROM BRAZILIAN AND ANTARCTIC SOILS

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Preservation of fungi in the laboratory with their unchanged characteristics is essential for research because it allows the availability of the strain at any time. This study aimed to test the sensitivity of tropical and Antarctic fungi isolated from soils to the preservation at low temperatures with and without the addition of glycerol for 24 months. The fungi F1, F2, F3, F5, F7, F8, F9, F11, F12, F13, F15 and F16 were isolated from soil of the UFSJ and fungi FA1, FA2, FA3, FA4, FA5, FA6, FA7 and FA12 were isolated from soil of the Brazilian Antarctic Station during a previous work. The fungi were grown in medium Sabouraud Dextrose Agar (SDA). These fungi are being characterized in other works. For each fungus, four sets of five disks taken from the border of the colonies and placed into 1,5µl micro-tubes and subjected to the following preservation treatments: absence or presence of sterilized 50% glycerol and storage temperatures of 4°C or -20°C , in triplicate. After 24 months the fungi were removed and placed on the surface of SDA culture medium and the recovery or not of the fungi was registered. Recoveries that did not reach 100% varied according to the treatment. For example: The fungi F7, F11, FA3 and FA6 did not grow after the storage at 4ºC, and at -20°C with glycerol the recovery was 33%, 0%, 33% and 100%, respectively, while in treatment without glycerol was 100%, 80%, 100% and 100%, respectively. The fungi F5, F8, F9 and FA7 showed 93%, 73%, 93% and 33% recovery after storage at 4°C with glycerol. The fungi FA5, F1 and FA2 showed 40%, 87% and 67% recovery at 4°C without glycerol. The fungi F2 and FA1 presented recovery of 0% at 4°C, while in -20°C without glycerol they presented recovery of 33% and 67%, respectively. F3 fungus presented 0% of recovery at 4°C without glycerol, 33% at 4°C without glycerol, 87% at -20°C without glycerol and 60% at -204°C with glycerol. The fungus FA4 presented 80% of recovery after storage at 4°C without glycerol. The fungus FA12 presented recovery of 67% after storage at 4°C without glycerol, 0% at 4°C with glycerol and 27% at -20°C without glycerol. The fungus F16 presented recovery of 33% at 4°C without glycerol, 0% at 4°C with glycerol and 80% at -20°C without glycerol. The results showed high variability of the fungi sensitivity regarding storage temperature and presence or absence of glycerol. These results will be considered for the storage process of these fungi in the laboratory.

Keyword: *fungi*, *preservation*, *soil*

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