Isolation And Identification of Fungi From Soil Samples of Different sites In Aurangabad City, India

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ABSTRACT   *Different kinds of soil sample have been collected from various location in Aurangabad city. The fungi identified in the soil sample are Aspergillums niger, Aspergillus flatus, Aspergillus terrus,Penicillum stoloniferur, Pencillium sp.Fusarium oxysporum, Alternaria solani, Trichoderma viride, Trichoderma sp. , Rhizopus sp.*

INTRODUCTION

Soils are excellent culture media for the growth of many types of organisms [2]. This includes bacteria, fungi, algae, protozoa and viruses . A spoonful of soil contains billions of microorganisms. In general the majority of microbial population is found in the upper six to twelve inches of soil and the number decreases with depth [4]. The number and kinds of organisms found in soil depend upon the nature of soil, depth, season of the year, state of cultivation , reaction, organize matter, temperature, moisture , aeration, etc.

Fungi are fundamental for soil ecosystem functioning [8]. Especially in forest and agricultural soils, they play a key sole in many essential processes such as organic matter decomposition and elemental release by mineralization [5]. Fungi are an important component of the soil micro biota [1]. Micro fungi play a focal role in nutrient cycling by regulating soil biological activity[1]. The quantities of organic and inorganic materials present in the soil have a direct effect on the fungal population of the soil.

MATERIAL AND METHODS

Study site and location :

Different locations of Aurangabad city have selected for collection sites of soil samples. Soil samples were collected from site A (Road side soil), site B (garden soil) and site C (pot soil of rose plant).

Method for collection of soil sample :

The soil samples were collected from different sites upto 15cm depth into a small stelized polythene bags and brought to laboratory for further studies.

Isolation of fungi from the soil samples :

The soil micro fungi were enumerated by two method, namely soil dilution method [7]. And soil plate method [8]. On different media such as potato dextrose Agar medium (PDA) and corn meal Agar medium (CMA).

Soil dilution plate method (Wasksman, 1992);

I gram of soil sample was suspended in 10 ml of double distilled water to make microbial suspensions (10^{-1} to 10^{-5}). Dilution of 10^{-3}, 10^{-4} and 10^{-5} were used to isolate fungi. Iml of microbial suspension of each concentration were added to sterile petridishes (triplicate of each dilution) containing 15 ml of sterile potato dextrose agar and con meal Agar. One percent streptomycin solution was added to the medium before pouring into pertiplates for preventing bacterial growth. The petri dishes were then incubated at 28 ± 2^0c in dark the plates were observed everyday up to three days -

Soil plate method (warcup, 1950) :

About 0.005g of soil was scattered on the bottom of a sterile petridish and molten cooled (40-45^0c) agar medium (PDA) & (CMA) was added which was then rotated gently to disperse the soil particles in the medium. The petridishes were then incubated at 28 ± 2^0c in dark for three days .

Identification of the soil fungi :

Fungal morphology were studied marcroscopically by observing colon features (colour and texture) and microscopically by sstaining with lacto phenal cotton blue and observe under compound microscope for the conidia , conidiophores and arragnetn of spores   The fungi were identified with the help of literature.

TABLE 1. ISOLATION OF FUNGI

S.No	Fungi	Site A	Site B	Site C
1	Aspergillus niger	+	+	+
2	Aspergillus flavus	-	+	-
3	Aspergillus terrus	-	+	-
4	Pencillum stoloniferum	+	+	+
5	Penicillium sp.	+	+	-
6	Fusariun oxysporum	-	+	-
7	Atternaria solani	-	+	+
8	Terichoderma viride	-	+	-
9	Trichodema sp.	-	+	+
10	Rhizopus sp.	+	-	+

RESULT AND DISCUSSION

The soil samples were analyzed with respect to different types of fungi. The most common fungi, *Aspergillusiniger and penicillium stoloniferum* are found in all three soil samples *Aspergillus niger, penicillum stoloniferum, penicillum sp.* and *Rhigapus sp.* are found in site A (Roadside soil). *Aspergillus niger, Aspergillus flavus, Aspergillus terrrus , penicillium stolonigerum, Pencillium sp. Fusrium oxysoprum, Alternaria solani, Trichoderma viride , Trichodomea sp Rhizopus sp.* was observed in site B (garden soil). *Aspergillus niger , Pencillium staloniferum, Allternair . solani, trichoderma sp. and Rhigapus sp.* was observed in site c (pot soil of rose plant).

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