

Title: The Identification of Fungal and Bacterial Cultures (*the same as the lab. Title in the power point*)

Aim:

- 1- To characterize the fungal culture and properties and define the fungi and bacteria.
- 2- To sub-culture the characterized isolated organisms.

Materials:

- 1- Aseptic technique tools, includes cotton, Dettol, Bunsen burner.
- 2- Fresh pure culture of different fungi Aspergillus, Penicillium, and Alternaria.
- 3- Fresh pure culture of different bacteria Bacillus, Streptococcus, and Staphylococcus.
- 4- Labels or marker for writing.
- 5- Two Conical Flasks (500 ml).
- 6- Czapek Dox Agar Media (3 plates).
- 7- Nutrient Agar Media (3 plates).
- 8- Incubators for fungi at 28°C and for bacteria at 37°C.
- 9- Water bath at 100°C.
- 10- Inoculating needles, loops, tweezers (forceps).

Method:

- 1- Stain a fresh pure culture of the isolated samples using lacto-phenol with the help of a sterile needle to separate the mycelium on the clean marked slide.
- 2- Examine the fungal slide using low power (10X) then high power (40X).
- 3- Identify the fungal mycelium shape and spores.
- 4- Spread a touch of the edge of the bacteria single colony on the top of the marked clean slide (in a 1Cm²) area then let dry and heat-fixed. After that, stain the bacterial smear using Methylene blue for 2 min by cover the whole smear. Then wash it with water gently to remove the excess dye.
- 5- After blot dry the slide, examine the slide under light microscope starting with low power (10 X) to high power (100X) with oil immersion.
- 6- Identify the bacteria shapes and arrangement.
- 7- Sub-culture the characterized organisms (bacteria and fungi) on the media.
- 8- Transfer a disk from the edge of the colony to the centre to a labelled Czapek Dox Agar plate and incubate it at 28°C for 5-7 days.
- 9- Transfer a touch of the bacteria colony to a labelled nutrient agar and incubate it at 37°C for 24 hours.

Results:

- 1- A new pure culture were grown for each bacteria and fungi then stored for the next experiment for biochemical characters.
- 2- Fungal Cultures characteristics:

Sample	Growth diameter (mm)	Colour	Mycelium type	Spores shapes
A	15	brown	Septate, branched	conidia
B	22			
C				
<u>Aspergillus</u>				
<u>Penicillium</u>				
<u>Alternaria</u>				

3- Bacterial Cultures Characteristics:

Sample	Growth No. of Colonies (CFUs)	Colour	Shape	Arrangement
A				
B				
C				
<u>Bacillus</u>	30			
<u>Streptococcus</u>	50			
<u>Staphylococcus</u>	25			

Section No.:

ID:

Name:

Discussion:

- Discuss the result in relation to the aim and the background.
- It is not necessary in all the labs.

Sample Report
Amal KHG