

Lab 4:

Isolation of microorganisms from different environments.



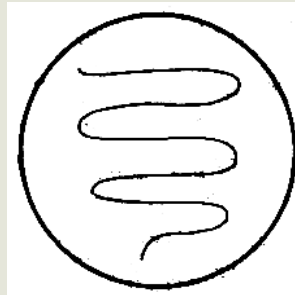
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Practical

The five I`s:

1. **Isolation** –separating one species from another.
2. **Inoculation** – introduction of a sample into a container of media to produce a culture of observable growth.
3. **Incubation** – conditions that allow growth e.g., temperature ,humidity, etc.
4. **Inspection.**
5. **Identification.**

Samples

A- Environmental Sample



Surface samples are normally taken using sterile swabs

B- Normal Flora Samples



Applying oral sample to surface of agar using sterile swabs

Various sources of isolation of :

Bacteria

Fungi



The Experiment

**Isolation of Microorganisms
from Different Environments.**

Aim:

1- Isolation of microorganisms from various environments.

2-



Material

- Aseptic tools.
- Petri plates with media.
- Different Sources (Soil, rotten fruits, Yoghurt, Flora like mouth swabs, etc).
- Incubators 28^oC and 37^o C.
- Inoculating loops and needles.

Isolation of Bacteria

Method

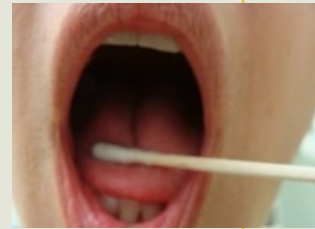
Yoghurt

- Put a drop of diluted yoghurt on the solid media plate of bacteria .
- Incubate at 37 °C for 1 day.



Mouth

- Take some saliva with the help of a cotton swab.
- Inoculate it on the media and incubate.



Hand

- Touch the surface of the solid media plate .
- Incubate 37 °C for 1 day. .



Agar plates are stored upside down to prevent condensation.

Method



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These plates of bacteria will be incubated at 37° C for 24 hours and then stored at refrigerator until next week when you will observe for results.

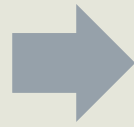
Method



Isolation of Fungi

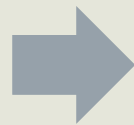
Method

Air



- Expose the prepared plate of solid media in air for 5 min
- Close the lid and incubate at 28 °C.
- After 2-5 days fungus observe for grow

Soil



- Sprinkle a pinch of soil on the solid media plate
- Close the lid and incubate at 28 °C
- After 2-3 days fungus observe for growth.



Fruit



- Clean the rotten part of fruit with alcohol
- Cut a piece and inoculate it on the media plate
- Then incubate ,after 2-5 days fungus will grow



These plates of fungus will be incubated straight at 28° C for 24 hours and then stored at refrigerator until next week when you will observe for results.

Method



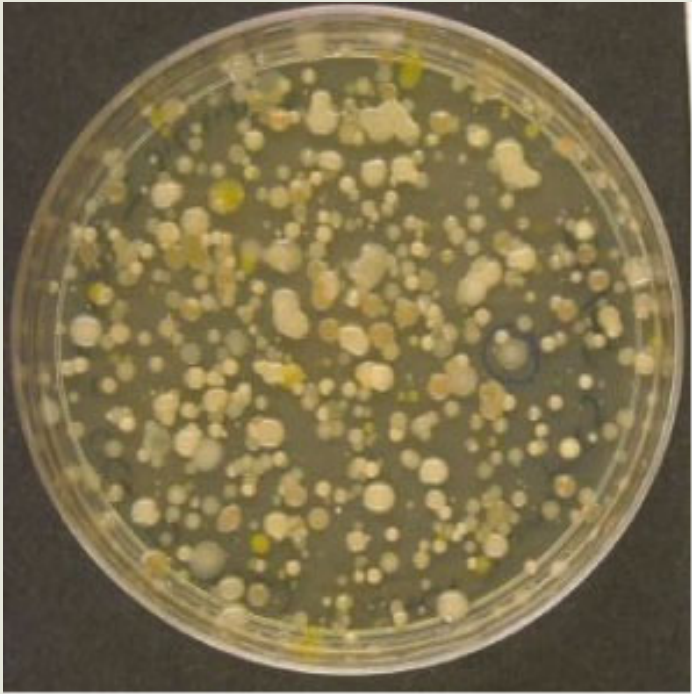
Results

The growth of Microorganisms

Duration of Incubation (hrs)	Source	24 hrs	27 hrs	120
Type of Media				
Nutrient Agar (NA)		+
Potato Dextrose Agar (PDA)		-

KEY: - = no growth , + = weak growth, ++ = medium growth, +++= heavy growth, ++++ = massive growth

Bacteria



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Fungi



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Thanks for Listening!

**For any question, please contact:
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