

BIOLOGY SS 1: WEEK THREE

Concept of Culturing

Microbial culture is a method of multiplying microbial organisms by letting them reproduce in predetermined culture medium under controlled laboratory conditions. Culturing is a technique of growing micro-organisms in the laboratory to study the microbes.

Culturing involves the following activities:

Preparing a sterile medium

Inoculating

Incubating

Examining micro-organism in the medium

While bacteria, fungi and algae can be grown in test tubes and Petri dishes in culture media, viruses cannot be grown. They can only grow and multiply inside the living cells of an organism.

To carry out studies involving viruses, viruses are cultured in the laboratory by injecting the virus into the fertilized bird's egg e.g. egg of duck.

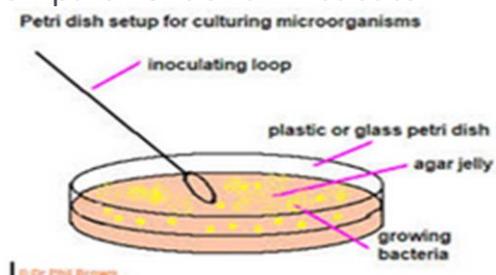
Purpose of culturing

- To isolate a bacteria
- To identify and study the properties of bacteria.
- To test antibiotic sensitivity.
- To create antigen for laboratory use.
- Culturing bacteria invitro for genetic studies.

Preparation of Culture Solution

- The culture solution called Agar is prepared under sterile conditions.
- It is then boiled and poured it into sterile petri-dish
- It is allowed to cool and set in the petri-dish
- A heat sterilizer may be used to kill micro-organisms in the petri-dish
- The material is then introduced into the agar medium and covered immediately
- The petri-dish is placed in a warm but dark compartment or an incubator
- The set-up is Observed and

What is seen for 2-3days is recorded what you



On the culture medium, micro-organisms occur as colonies. Colonies of micro-organism do clump together in a large number of an organism of the same kind. Colour, appearance and other characteristics of the colonies enable the investigator to identify and differentiate microbes in a culture medium.

Bacterial cultures

Colonies of the bacteria known as *Escherichia coli* (larger, pink) and *Proteus Vulgaris* (smaller, brown) grow side by side in this petridish culture. Under normal circumstances both of these bacteria harmlessly inhabit the human intestines and aid in digestion, but, they can become pathogenic and cause infections, such as urinary tract infections. Scientists and doctors grow cultures of bacteria and study their characteristics to learn about bacterial diseases and disease prevention.

ASSIGNMENT

1. Explain culturing
2. State four different media used in culturing bacteria