بسم الله الرحمن الرحيم

140 micro

Lab 3: Culture Media

Microorganisms need food to grow

- **Primary ingredients required by all living organisms include:**

  a carbon source, water, minerals, and

  a nitrogen source.

- **These nutrients together make a media.**
- **Different microbes need different amounts of these nutrients.**

TYPES OF CULTURE MEDIA :

- Culture media can be classified according to:

A - Physical state (consistency) of the media

B. According to the use of media

A- Types of culture media based on the physical state

- **Liquid medium:**
  - –Without agar.
  - –for the proliferation of bacteria.
- **Solid medium:**
  - –1.5-2.5% agar.
  - –for the isolation and identification of bacteria
  - –e.g., slant, Petri dishes/plates.
- **Semisolid medium:**
  - –0.3-0.5% agar.
  - –for the observation of bacterial motility and preservation of bacteria.

B- Types of culture media According to the use of media

1)Simple or basal media:

e.g. **Nutrient Agar** and **Nutrient Broth**.

They are used for the cultivation of common microorganism

2)special-purpose media:

e.g. enriched, selective, differential, transport, sensitivity test, etc…

ENRICHED MEDIA :-Simple media enriched with appropriate substance ,e.g. Blood ,glucose ,serum and ascetic fluid ,most commonly used to cultivate fastidious microorganism like streptococci.

Culture Media for Bacteria:

Nutrint Agar :

- A complex medium for the growth of heterotrophic bacteria :
- Components:

-Pepton 5g

-Beef extract 3g

-Sodium chloride 8g

- Agar 15g

- Water 1 liter

Culture Media for Fungi:

1- Potato Dextrose Agar (PDA):

- It is a general purpose media for isolation of fungi and molds.
- Components:
  - Potatoes 200g
  - Agar 15-20g
  - Dextrose 15g
  - Distilled Water 1000ml

Culture Media for Fungi:

2-Malt Extract Agar (MEA):

Components:

- -Malt Extract 20g
  - - Agar 20g
  - - Glucose 20g
  - -Sucrose 200g
  - - Distilled Water 1000ml

Aim

To prepare solid and Liquid media

Requirement

1) **Deffrent media :**

Nutreint broth - Nutrient agar - PDA/malt extract

Requirement

2- Balance

3- Distil water

5- Test tubes

6- Petri plates

7- Flasks

7- Burners

8- Autoclave

Procedure

1- Weigh

2- Dissolve

3- Sterilize

4- cool

5- refrigerate till use

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2- Dissolve

3- Sterilize

4- cool

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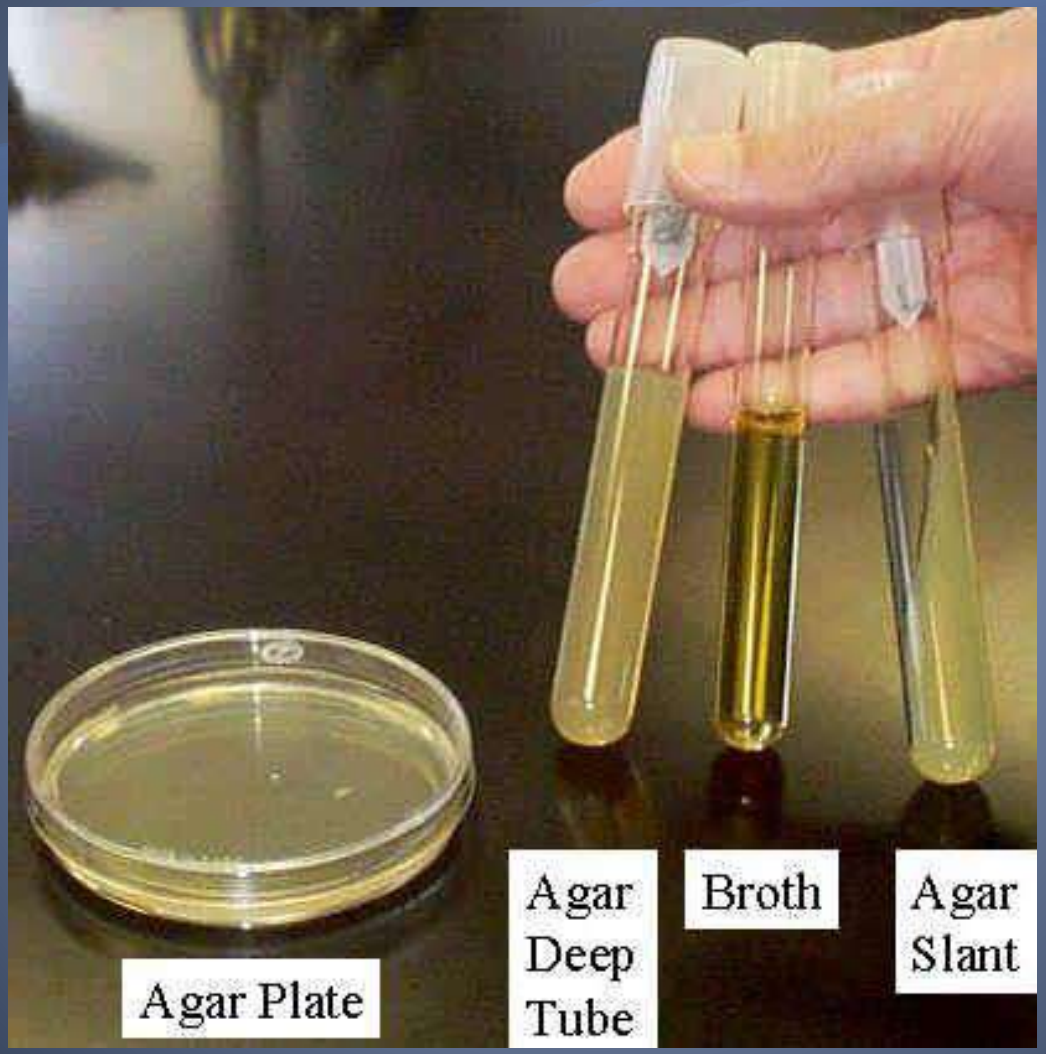
Who to make …….?



Pouring of Solid media

- Petri plates :

- Remove the lid slightly
- Pour the media near bunsen burner
- Invert the plate
- Write date and time on the sides of plates




In tubes

- Making of Slants:

- After boiling, pour media in test tubes
- Autoclave
- Place in slant position till the media solidifies.

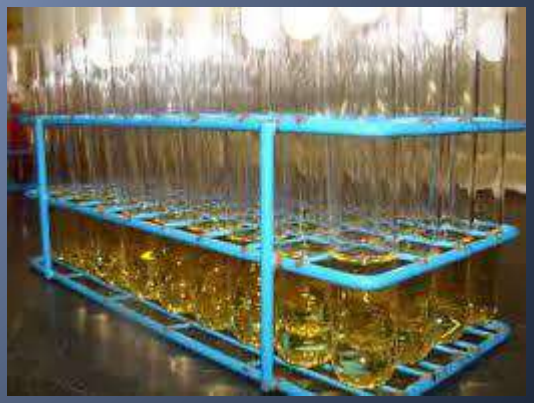
- Agar deep tube :

- After boiling, pour media in test tubes
- Autoclave
- Place in vertical position till the media solidifies.

Slant agar - Deep agar

-Making of test tubes with broth media :

- Place the test tube near a burner and remove the cap
- Pour the media in the tube and close the cap at once
- Place the tube in upright position in the test tube stand.



Vidio

https://youtu.be/cneascR3OEc

Thank you ….