ENRICHMENT MEDIUM 00:29:31

Liquid selective medium

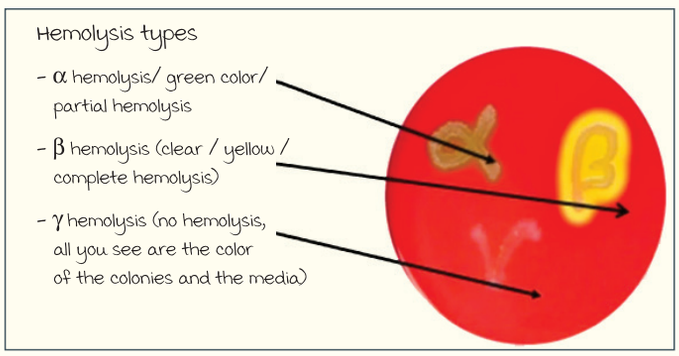
Eg: Alkaline peptone water → Vibrio

Selenite F Broth → Salmonella, Shigella

DIFFERENTIAL MEDIUM 00:30:42

Based on the colony morphology / colour, groups of bacteria can be differentiated.

Eg: 1) Blood Agar

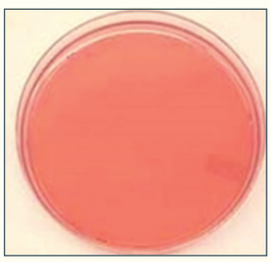


2) MacConkey Agar:

Lactose fermenting gram –ve → Pink / Magenta

vs

Non lactose fermenting → Pale

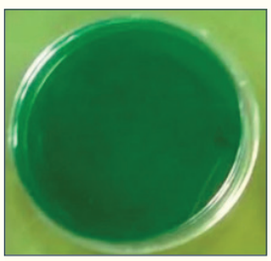


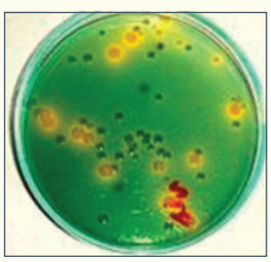
3) TCBS:

Sugar fermenting vibrio → Yellow

vs

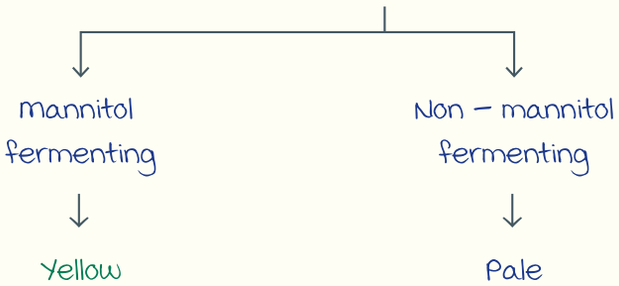
Non sugar fermenting vibrio → Pale

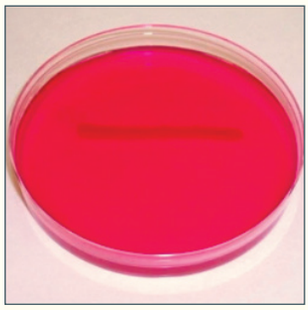




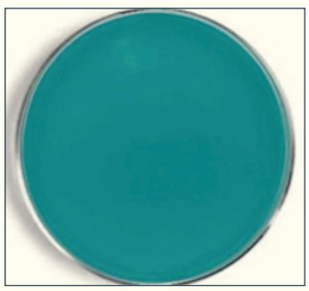
4) Mannitol Salt Agar:

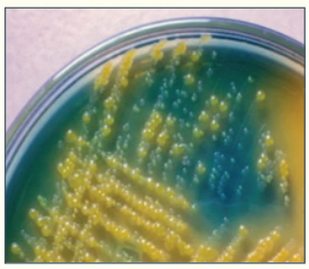
- Selective medium for Staphylococci





5) CLED medium:





6) Hugh – Leifson Oxidation Fermentation Medium

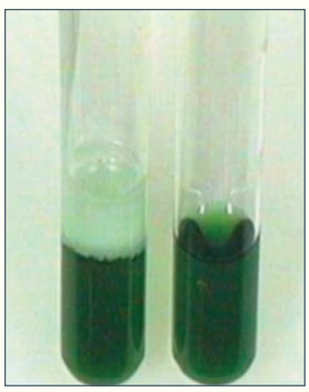
→ based on the utilization of glucose

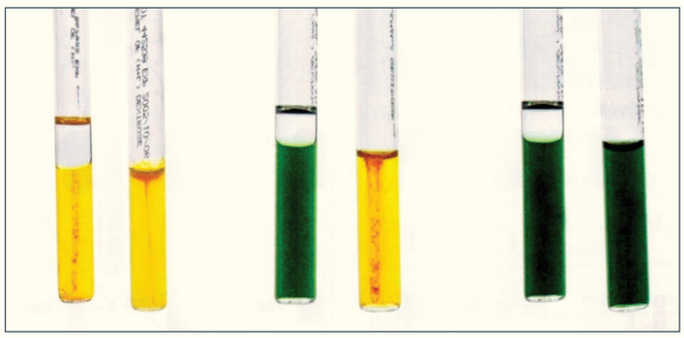
- Only aerobically → Oxidative utilization
- Aerobically + Anaerobically → Fermentative utilization

Medium contain glucose

+

bromothymol blue (pH indicator)





Ferm | OXID ↓ Non fermenters | Not utilized Glucose

- Oxidative utilization: Pseudomonas aeruginosa, Brucella, Bordetella } Strictly aerobic
- Fermentative utilization: E. coli, Enterobacteriaceae, Staphylococci, Streptococci

INDICATOR MEDIUM 00:39:44

- Contains indicator agent which gives a characteristic colour to a group of bacteria
- Eg:
  - MacConkey Agar : Neutral Red
  - TCBS : Bromothymol blue
  - Hugh Leifson media : Bromothymol blue

TRANSPORT MEDIUM 00:41:17

- Venkataraman Ramakrishnan (VR) medium: Vibrio
- Pike's medium: S. Pyogenes
- Thioglycollate broth: Anaerobes
- Cary Blair: Universal stool transport medium

ANTIBIOTIC SUSCEPTIBILITY TEST 00:43:14

Carried out to determine which antibiotic will be most successful in treating a bacterial infection in vivo

Standard inoculums of test bacterium:

- Special suspension of test bacterium which has a specified amount of turbidity
- Unit for expressing turbidity of bacterial suspension: MacFarland's
- Spectrophotometer: Used for measuring turbidity of standard inoculum of test bacterium.

Temperature of incubation → 35 – 37°c

Time of result interpretation → 16 – 18 hrs

METHODS OF SENSITIVITY TESTING 00:47:03

1. Dilution method
2. Disc diffusion method
3. E test

1) Dilution method [Reference method]