

Culture media:

Culture media are specific mixtures of nutrients and other substances that support the growth of microorganisms, providing an environment securing of different kinds of microorganism and survival further Continuous propagation. It might contain nutrients carbon, nitrogen and vitamins, Glucose (dextrose), Fructose and mannose, growth factors, salts, minerals and sources of energy like sugar.

Typical sequence of testing of fungal specimens:

- 1- Collection of specimen
- 2- preparation culture media
- 3- Fungi isolation
- 4- Incubation at optimal temperature
- 5- Check for growth
 - Negative (No growth)
 - Positive (Colonies on media)
- 6- Continue with identification procedures.

Specialized culture media:**1- Dermatophyte test media :**

The use of dermatophyte test medium (DTM) is reliable, simple, inexpensive, and more definitive. Samples from hair, skin, or nails are obtained by scraping with a scalpel carefully, (especially for tinea capitis), and these are inoculated directly onto the test medium. After about 1 to 2 weeks, a color change from yellow to red in the agar surrounding the dermatophyte colony indicates positivity.



Figure (1) Dermatophyte test media

2- Sabourauds Dextrose Agar (SDA):

Is a standard in mycology laboratories and also in many dermatologists. It consist of dextrose energy source ,peptone protein source and agar for firm surface this media is good for yeasts and moulds like *candida albicans* .

3-Bird Seed Agar

For selective isolation of *Cryptococcus neoformans* and *C. gattii*. Most infections occur in the lungs which causes the human diseases (cryptococcosis) pulmonary infection.



Figure (2) Bird Seed Agar

4-Czapek Dox Agar:

This media used to cultivation of fungi, especially *Aspergillus*, *Penicillium*.

5- Modified Dixon's Agar:

For primary isolation and cultivation of *Malassezia* species which naturally found on the skin surfaces of many animals, and humans.

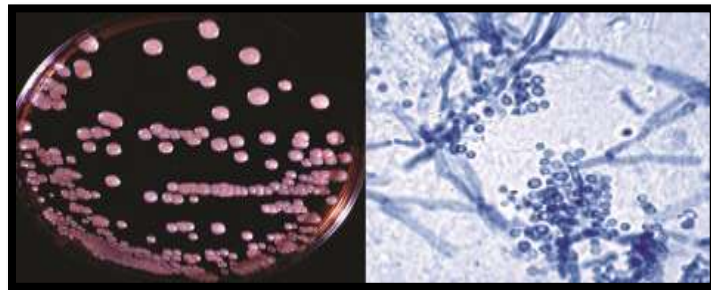


Figure (3) *Malassezia* in Modified Dixon's Agar

6- Hair Perforation Test for Dermatophytes

To distinguish between isolates of dermatophytes, particularly *Trichophyton mentagrophytes* and its variants.

Method :

- ❖ Place hair in water in vial.
- ❖ Inoculate with small fragments of the test fungus.
- ❖ Incubate at room temperature.
- ❖ Individual hairs are removed at intervals up to 4 weeks and examined microscopically in lactophenol cotton blue. Isolates of *Trichophyton mentagrophytes* produce marked localized areas of pitting and marked erosion whereas those of *Trichophyton rubrum* do not.

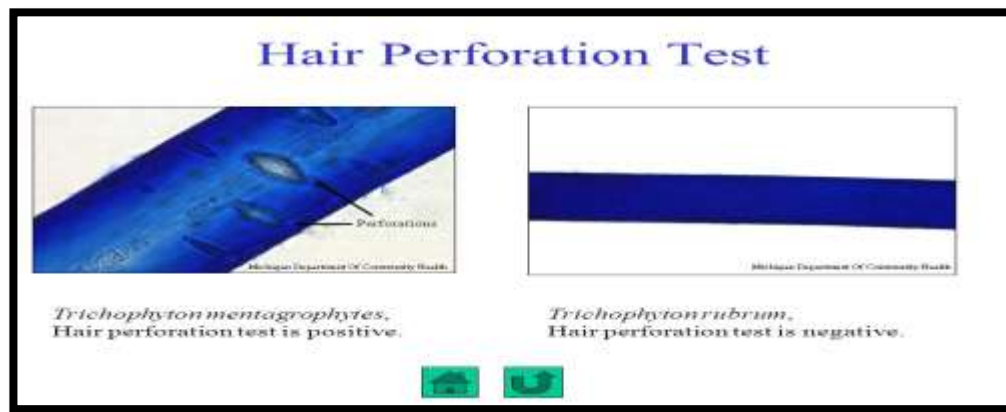


Figure (4) Hair Perforation Test

7- Potato Dextrose Agar:

For cultivation and identification of fungi.

8- Rice Grain Slopes:

For differentiation of *Microsporum audouinii* type of dermatophyte that colonizes keratinized tissues (hair) causing infection and *Microsporum canis* which infects the upper, dead layers of skin on domestic cats, occasionally dogs and humans.

Baits: Other kinds of baits might be pieces of wood, insects, carrot chunks, plastics, hair, or anything. Sometimes baits used to attract certain types of fungi, where a growth appear clear on these baits then transferred to the culture media.

Note: Antibacterial agents (Chloramphenicol) are used to kill the contaminating bacterial species.