

FNLSES

Department of Biology

Module Leader : Prof. Guetarni H.

Cycle : Microbiology Degree

PW 1 : Isolation and characterization of some yeasts

Aims

The aim of this work is first to isolate yeasts from various samples collected, and then to characterize them.

Principle

After culturing yeasts from several samples (soil, fruit, etc.), the specific colonies that appear on an agar plate are characterized by microscopic observation and other tests.

Procedure

1. Isolation

- Take a sample containing yeasts, such as a soil sample, fruit, or frozen stock.
- Then perform a streak isolation on a Petri dish containing a suitable culture medium, such as YPD (yeast peptone dextrose) agar (if the sample is too dense, you can dilute it).
- Incubate the plates at a specific temperature, generally 30°C, for approximately 48 hours to allow the colonies to grow.

2. Characterization

- Observe the isolated colonies under a light microscope to study their morphology (size, shape, etc.).
- Transfer a colony to a liquid medium to create a suspension culture and observe its growth.
- Perform tests to assess UV tolerance and carbon dioxide production, for example :

Survival analysis: Subject a sample of microorganisms to UV radiation and evaluate the number of surviving cells in comparison to an unexposed control group to assess the mortality rate.

Carbon Dioxide production: During fermentation, carbon dioxide is generated. A standard method involves capturing and measuring the gas by directing it through lime water, which turns cloudy upon detecting the presence of carbon dioxide.

Required work

Write a report, including the results obtained during this work (diagrams and tables).