terminology

١. Pathogen
٢. Parasite
٣. Host
٤. Alternate host
٥. Biotrophs
٦. Necrotrophs
٧. Isolation
٨. inoculum

A culture medium: is a solid or liquid preparation containing all the nutrients required by microorganisms for growth.

Medium has many functions include:
identification.
Isolation.
Transporting.
Assay.
Differentiation.

Potato Dextrose Agar:

is a common media for growth of fungi.

PREPARING FROM COMMERCIAL POWDER

Add 39 g of commercialized powder to 1 liter of distilled water.

Boil while mixing to dissolve completely.

Sterilize media by autoclaving at 121ºC for 15 minutes.

Aseptically dispense into sterile Petri dishes.

Nutrient Agar:

is a non selective culture medium commonly used for the culture of non-fastidious microorganisms.

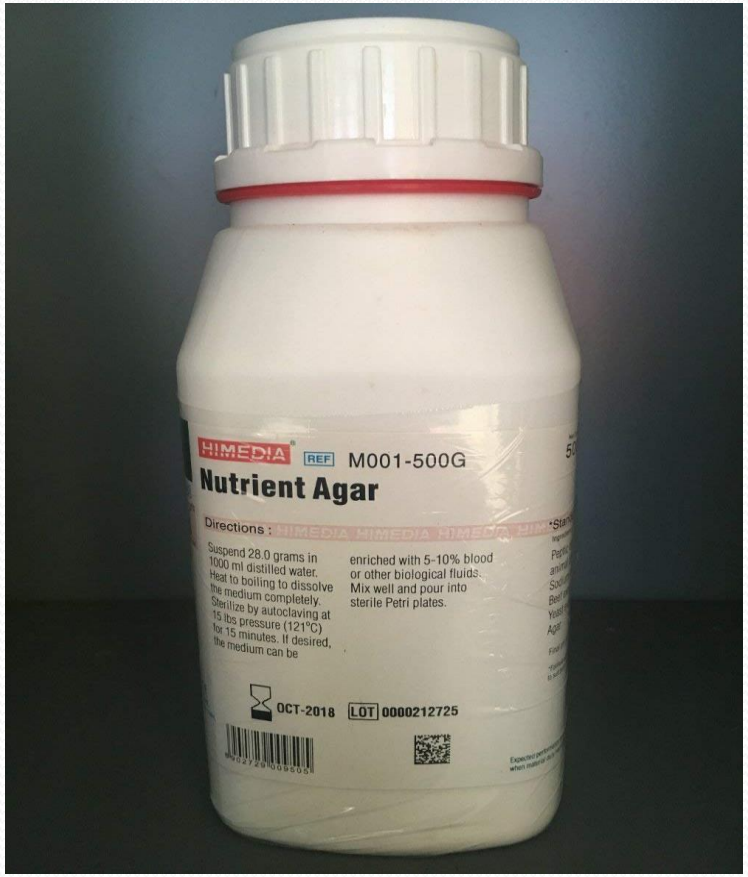
Add 28 g of nutrient agar powder to 1 liter of distilled water in a flask.

The suspension is then heated to dissolve the medium completely.

The dissolved medium is then autoclaved at 15 lbs pressure (121°C) for 15 minutes.

After autoclaving the flask is cooled .

The media is then poured into sterile Petri plates under sterile conditions.



Pathogen: any organism that cause disease in a host eg (fungi, bacteria, virus and nematodes).

Parasite: any organism can lives on or in another organism and obtains food from second organism.

Biotrophs: organisms do not kill plant cells. They penetrate cell wall and establish a continuous relationship or move from cell to cell eg (rust and powdery mildew).

Necrotrophs: they kill plant cells before feeding on the cell content and live on dead tissue eg (rhizoctonia).

Host: any organism that harbor another organism is called host.

alternate host: is the host that help the pathogen to complete their lifecycle and its survival on it.

Isolation: The separation of a pathogen from its host and its culture on a nutrient medium.

infection: establishment of a parasite within a host plant

Sample collection

The infected plant parts will cut from the plant and placed in a plastic bag, then the samples taken in to the laboratory.

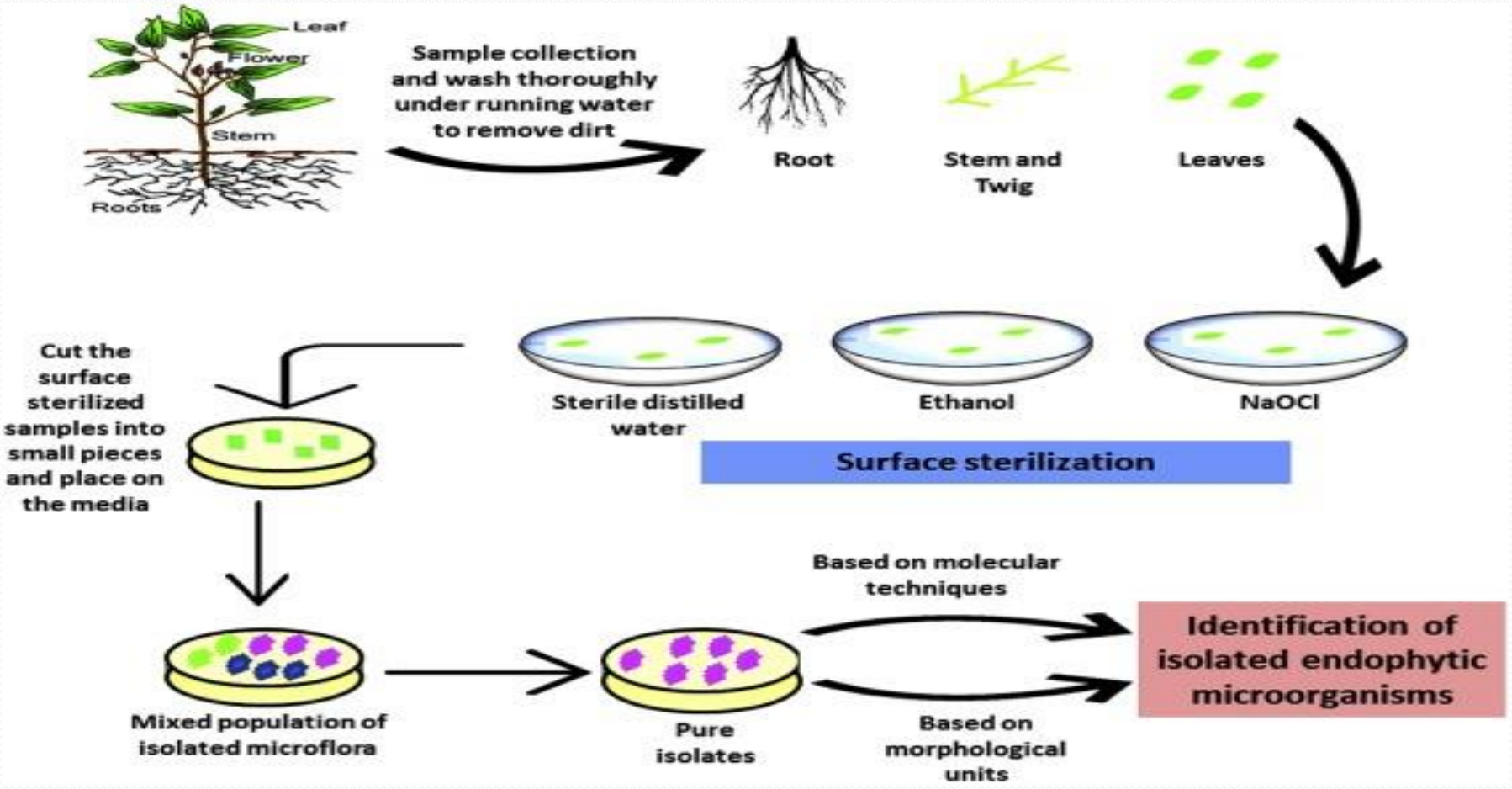
Note you must write :

the date of samples collection

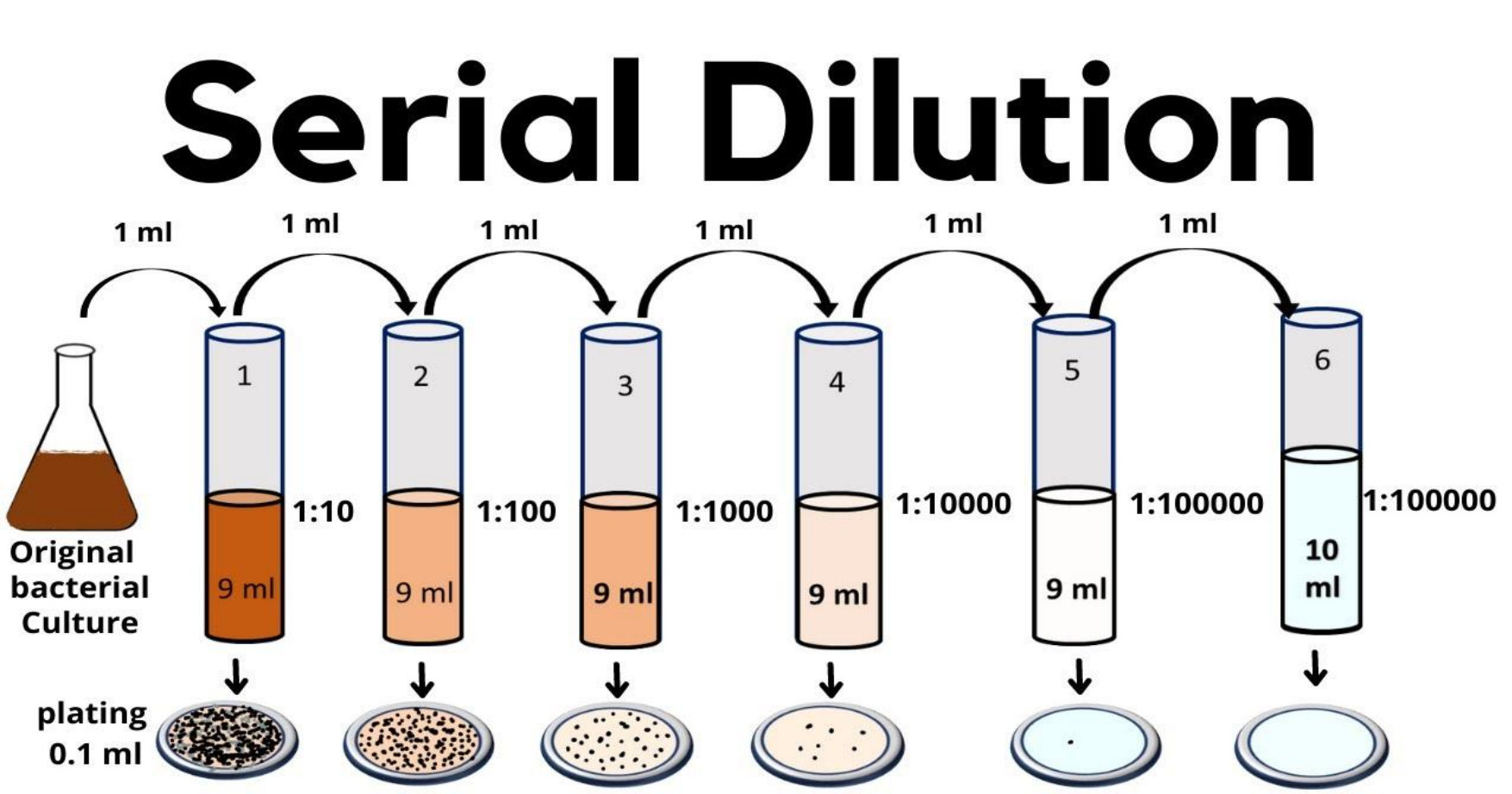
Type of tree.

place

Isolation the fungi and bacteria from infected plant parts:



Isolation of bacteria and fungi from the soil



Isolation of root knot nematode

materials:

compound microscope.

Scalpel.

blender.

slide and slide rod.

tap water.

cheesecloth.

Procedure:

Wash the roots showing galls thoroughly with tap water.

Cut out the galls from the root material.

Cut the galls into small pieces using a scalpel.

Grind the galls in a small amount of water by using a blender for about 20 seconds.

Filter the homogenate through 3 layers of cheesecloth to get rid of the root debris.

Place three droplets of the filtrate on a glass slide by using glass rod. Examine each droplet under compound light microscope.