

Colony Growth Characteristics are observed in agar plates & broths.

When bacteria are cultured in agar plates the following characters are observed.

1. Size:-

The diameter of the colony may vary from a pinpoint to a few millimeters.

2. Shape:-

The colony shape may be circular, filamentous, punchi form, rhizoidal or spindle shape.



Circular Filamentous Rhizoidal punch form Irregular Spindle.

3. Colony elevation:-

This form is used to describe the depth of the colony developed by microbes.

A colony may be flat, raised, convex, pulvinate &

umbonate



Flat Raised Convex pulvinate Umbonate

4. Pigmentation:-

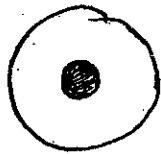
Colonies may be coloured or colourless. Among colour they may be different shades

ex:-
Flavobacterium majus - pink.
Staphylococcus aureus - Gold
Micrococcus luteus - yellow.

Bacteroides melaninogenicus - Black.

5. Colony Margins:-

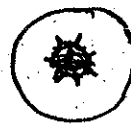
The margins may be entire undulate (wavy), lobate or rhizoidal.



Entire



undulate



Lobate

6. Optical Features:-

The colonies may be transparent or translucent (Also foggy in appearance) or opaque not permitting light to pass through, iridescent (rainbow colour)

7. Texture Surface:-

It may be smooth, wavy, rough or granular.

8. Colony odour:-

Some microbes produce a characteristic smell, which sometimes help in the identification of microbes.
ex:- Actinomycetes - Earthy odour.

9. Colony Consistency in broth:-

1. IF the broth appears milky and cloudy - turbid
2. IF the deposit of cells is present at the bottom of the tube - sediment
3. IF the growth is continuous form - pellicle.

Growth characteristics in agar slants:-

1. Abundance

It may be luxuriant or scanty

2. Margin

may be uniform or irregular

3. Texture:-

may be smooth, glistening, rough, wrinkled, dry powder, etc.

4. Pigmentation

Coloured (or) Colourless.

5. Colony appearance:-

may be filiform, echinulate, beaded, effuse, Arborescent, Rhizoid.



Filiform



Echinulate



Beaded



Effuse



Arborescent



Rhizoid.

Agar Stab:

The colony appearance in agar stab may be napiform, filiform, papillate, arborescent, beaded, stratiform.

Results characteristics of bacteria observed in gelatin stabs:-

≠ Gelatin stabs are used to identify the proteolytic activity of bacteria.

≠ The gelatin stabs are incubated at 20°C.

≠ The gelatinase enzyme produced by these bacteria causes liquefaction of gelatin and produces characteristic pattern in the tube.

≠ The various characters produced are crateriform, napiform, saccate, stratiform, filiform, beaded, papillate, villous and arborescent.