

# CALLUS CULTURE

# General introduction

- Callus is the unorganized and undifferentiated mass of tissue.
- The plant body of higher plants is made of multicellular, well organized differentiated structures like root, stem, leaves etc.
- Large mass of unorganized and undifferentiated cell which is called as callus and this process is called callus culture.
- The cultured part is called as explant.

# Historical events

- Gautheret got success in the development of callus from cambial cells on normal culture media.
- Nobecourt developed callus development technique on semi-solid agar media.
- Skoog and miller showed for the first time that callus formation is regulated by hormones

# Technique of callus culture

- First it is necessary to sterilized the plant organ from which an explant is taken.
- Sterilizing agents commonly used are mercuric chloride solution, sodium hypochorite.
- Agar-agar is used for making culture medium.
- The explants are then transferred into culture tube of flask containing solid culture tube of flask containing solid culture medium.

# Advantages of callus culture

- A large number of plants can be developed after hormone treatment.
- These embryoids are then cultured to grow plantlets.
- New plants can be regenerated from from a single cell isolated from the callus.
- Many biochemical test can be achieved by callus culture technique.