ORGANOGENESIS IN PLANTS

A plant contains many organs like meristem, cortex, phloem, epidermis are consist of structural unit called cell. because an cell have to nature of create whole plant like any organ or tissue of plant also show same nature mean they also create to whole plant in in-vitro condition. if plant organs used in in-vtro conditions to generated new plant this process called organogenesis.

In organogenesis of plant included two different stages first is de-differentiation (calllus formation) and other is re-differentiation (budding on callus) of organ or explant. organogenesis of plant is require to gain how a organ generated or developed to an whole plant. organogenesis is method to regeneration of plant in for of organs from callus.

Formation of organ in callus depends on medium constitutes because medium of tissue culture also contain growth regulators witch determine to shoot regeneration or root regeneration. for this auxin and cytokinin ratio used in a appropriate ratio witch responsible for callus regeneration. more concentration of cytokinin compare auxin generated to shoot part in callus and more quantity of auxin generated to roots in callus. plant growth regulators like auxin, cytokinin, gibberelin, ethylene, abscisic acid, etc are affect to callus regeneration according ratio of them in medium.

Example of organogenesis- organogenesis from Tabacco pith callus is the best example of how to varying plant growth regulators during can be used to manipulate there pattern of regeneration.

Affect of growth regulators-

- More cytokinin / low auxin ratio regenerated to shoot part.
- Low cytokinin / more auxin regenerated to only root part.
- Medium cytokinin / medium auxin regenerated to both shoot and root ,
- medium cytokinin. low auxin only regenerated to callus.