

Aim 34

To Prepare Synthetic Seeds

Introduction

Synthetic seeds are the natural seed like structure that on germination give rise to new plant. Normally these are a bead of gel containing somatic embryo/shoot bud / a group of cells with the other substances like insecticides, fungicides, herbicides, growth regulators, inorganic nutrients, carbon source, bactericides, growth promoting substances etc. Synthetic seeds have many advantages as given below:-

1. They can be transported easily without any injury to the seed.
2. They are easy to handle.
3. They can be sown like natural seeds.

Requirements

1. Somatic embryos
2. CaCl_2 solution - 100 mM
3. Sodium alginate - 2%

Procedure

1. Pour the sodium alginate solution into the burette.
2. Put somatic embryo in the spatula (one at a time).
3. Bring the spatula containing somatic embryo near the tip of burette
4. Sodium alginate solution in spatula is taken.
5. Invert the spatula quickly near the beaker containing CaCl_2 solution
6. After 3-5 minutes, the beads will appear.
7. Leave the beads to harden for 30 min. (calcium alginate will form)
8. Take out the artificial seeds.
9. Wash them with water and store.