

Aim 46

To Test the Seed Viability

Introduction

A biochemical test differentiates live from dead tissue of seed embryo on the basis of dehydrogenase enzyme activity (respiratory enzyme). Upon seed hydration, the activity of enzyme increases resulting in the release of hydrogen ions which reduce the colorless tetrazolium salt solution (2,3,5 triphenyl tetrazolium chloride) into a chemical red compound called formazan. Formazan stain living cells with a red colour while dead cell remains colorless.

Requirements

Seeds, petriplates, magnifying glass, Tetrazolium solution.

Procedure

1. Seeds taken for testing were soaked in the distilled water for one hour.
2. Seeds were divided/ cracked or opened in halves.
3. Seeds were soaked in petri plates filled with tetrazolium solution.
4. The samples were incubated for about 30 minutes at 37°C.
5. Seeds were observed and diagnosed using magnifying glass or microscope.

Results

The live seed embryos show the coloration. Dead seeds are colorless. Some shows light coloration means slow development (Low viability) and the embryos which show red colour have high viability.