

Study Pollen Germination On A Slide

Aim

To study pollen germination on a slide.

Necessary Materials & Apparatus

Freshly plucked seasonal flowers, beaker, boric acid, sucrose, microscope and cavity slide.

Procedure

The first step involves the preparation of a nutrient solution. This is done by dissolving 10g of sucrose as well as 10mg of boric acid in 100ml of water.

Pour a few drops of this solution onto the cavity slide. Then, use a brush or fingers to gently dust a few pollen grains from the stamen of mature flowers.

Let the slide set for 5 mins. Then, use the microscope to view the slides in 30-minute intervals.

Observation

The pollen grains will germinate when submerged in the nutrient-rich medium. This is characterized by the enlargement of the vegetative/tube cell. It emerges through one of the germ pores, eventually forming a pollen tube. The generative cell nucleus grows into the pollen tube and makes two male gametes (sperm nuclei). The male gamete is either spherical or lenticular in outline.

Precautions

- Ensure that the flowers are freshly picked
- The observation slide should be a cavity slide, meaning that it has a depression in the centre.