

1. Make a 0.5% sucrose (table sugar) solution with distilled water. Only use a solution made that day.
2. Add 1.5mL of sucrose solution to a small vial. The sucrose solution needs to be at room temperature.
3. Add in 4mg of pollen anthers, shake well to get the pollen into the solution and out of the anthers.
4. We use deep-well (depression) glass microscope slides and a cover slip:
  - Rub vaseline on the edge of the deep well (this is to create a seal).
  - Place one drop of the solution onto the cover slip, invert, and place on the deep well slide.
5. Incubate overnight at 31 degrees C. It is critical to incubate the slides at this warm temperature.
6. View under a microscope; count 100 pollen grains and use a clicker to keep track of pollen that has germinated. Count as germinated pollen that has started to germinate, but then aborted. Aborted pollen will have a very short germ tube, and usually will spill its cell contents into the sucrose solution. The frequency of aborted pollen varies with the pollen. The same pollen incubated in different strength sucrose solutions will show varying degrees of abortion.

If deep-well slides are unavailable, moisture chambers can be made with materials that are simple to acquire. To do this take a Petri dish and the ring from a wide mouth mason jar. Place a small square of paper towel to cover the bottom of the dish then fit on the mason jar ring. Add 5ml of water to the dish. Place 5 drops of the anther/sucrose solution onto a regular microscope slide, set it on the edge of the mason jar ring, and put the top back on. Incubate over night at 31 degrees C. Place a cover slip on when ready to view under the microscope.