

Ex.No:4. Study of different meiotic phases in the inflorescence of maize and pearl millet/sorghum

Protocol

1. Young flower buds are fixed in Farmer's solution between 8 and 11 a.m.
2. After 5 hours the flower buds are transferred to 75% ethanol for preservation.
3. The preserved buds are washed with distilled water.
4. Anthers are removed from the flower buds by viewing under a simple microscope.
5. Anthers are placed in a drop of acetocarmine on a clean glass slide.
6. After a few minutes, the fluid are withdrawn with absorbent paper and replaced with a drop of fresh dye.
7. The anthers are cut transversely and the microsporocytes are squeezed out by pressing the anther with a scalpel.
8. Anther walls and debris are removed using a clean needle.
9. A cover slip is placed on the squash without any air bubble.
10. The slide is heated over a slide warming plate or a spirit lamp flame for 2 seconds to have good spread of cells.
11. The slide is placed between folds of a blotting paper and is give a gentle press to remove the excess stain.
12. The slides under are observed under a microscope and necessary drawings are made.
13. Good slide preparations can be preserved temporarily by placing molten wax on the border of the cover slip on all sides so as to block the entry of air beneath the cover slip. Appropriate labels are affixed on the slides.

Exercise:

1. Identify and draw the stages of meiosis in the specimen given to you.
2. Write the differences between Mitosis and Meiosis.
3. Define Chromosome, Chromatid, Chromonemata, Chaisma, Tetrad, Dyad and Synapsis.