

THE KARYOTYPIC STUDIES OF THREE LOCAL SHALLOT OF MANIPUR, INDIA

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ABSTRACT

The shallot, the bunching onion of Manipur is not studied cytologically besides its medicinal values. The three different indigenous cultivars of Manipur were collected from three different habitats and compared with a brown onion from the market. The meristematic cells of root tips showed identical diploid count of chromosomes of 16. When chromosomes were arranged according to their lengths, the karyotypes from three different habitats and one exotic consisted of 2 metacentric; 12 submetacentric and 2subtelocentric chromosomes. Broadly the four onions showed rather consistent karyotypes. Only variation is the chromosome numbers where one is subtelocentric in chromosome number V in three onion specimens while it is submetacentric in Khurai specimen which could be brought about by pericentric inversion. Another importance of onion chromosomes is application for genotoxic/cytotoxic test of variant chemicals. Regarding this extra perspective, indigenous shallot is much advantageous over brown because in this brown onion showed chromosomal abnormalities like Anaphase Bridge, disturbed anaphaseetc. So the genotoxic/cytotoxic test using onion chromosomes should take precaution about the type of the onion. Hence our indigenous onion variety is much advantageous than the brown onion for the any genotoxic/cytotoxic test.

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