

EVALUATION OF CYTOTOXIC AND GENOTOXIC EFFECT OF THE TEXTILE DYE DIRECT BROWN ON *ALLIUM CEPA* L

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ABSTRACT

In the present study, the cytotoxic, genotoxic and mutagenic effects of the textile dye Direct Brown was evaluated using root tip cells of *Allium cepa*. Root length, mitotic indices and chromosomal aberrations were used as the test parameters. There was significant difference ($p < 0.05$) between mean root lengths of *A. cepa* exposed to different concentrations of the dye and the control. Root growth inhibition was concentration dependent and IC_{50} value was found as 200 ppm using regression plot. The mitotic index decreased significantly with dye treatments. Chromosomal aberrations such as sticky metaphase, disturbed metaphase, anaphasic bridge, disturbed anaphase, laggards and chromosome fragments were observed.

KEYWORDS: Chromosomal Aberrations, Cytotoxicity, Direct Brown, Genotoxicity, Textile Dyes