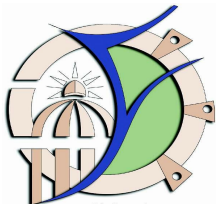

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5-Cytogenotoxicity evaluation of water contaminated with some textile azo dyes using RAPD markers and chromosomal aberrations of onion (*Allium cepa*) root cells

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Summary

The *Allium cepa* assay is an efficient test for chemical screening and *in situ* monitoring for genotoxicity of environmental contaminants. This test has been used widely to study genotoxicity of many chemicals pollutions revealing that these compounds can induce chromosomal aberrations in root meristems of *Allium cepa.* In this study, we aimed to determine genotoxic effects of some textile azo dyes by using the *Allium cepa* chromosome aberrations test and random amplification of polymorphic DNA (RAPD) analyses. The onion (*Allium cepa* L.) roots were exposed to different concentrations of three textile azo dyes. The mitotic index of samples exposed to EC_{50} (500 µg/ml) of selected azo dyes for RLB, RN and SGL was 10.8, 10.3 and 8.8 respectively. The results indicated that the root length of *Allium cepa* reduced with an increasing azo dye concentration. A random amplification of polymorphic DNA (RAPD) analysis from the extracted DNA was carried out using ten 10-base pair random primers. Ten primers produced 54 bands between 100-1600 base pairs in gel electrophoresis. The number of disappearing bands in profiles was differenced from one to five bands of azo dyes treatment compared to total bands in control and new bands were appeared in treatments.