

## ABSTRACT

MSc Thesis

### DETERMINING THE GENOTOXICITY WITH *ALLIUM* TEST SYSTEM OF SOILS IN AYDIN REGION WHICH ARE WATERED FROM BÜYÜK MENDERES RIVER

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Nowadays one of the most important problems is environmental pollution. Environmental pollution in Büyük Menderes River-basin which is one of the agricultural field in our country has reached important dimensions. Büyük Menderes River which waters Büyük Menderes river-basin and fields around it are contaminated by various sources.

In this study the genotoxicity of soil samples taken from three different regions in two different months (September 2006, Martch 2007) in Aydın region of Büyük Menderes River-basin has been searched with *Allium* test.

Soil samples have been taken from the lands watered by Büyük Menderes River and Çine Stream; the fields near Büyük Menderes Bridge (In Muğla mainway), Çine Stream and Koçarlı Bridge in September and March. 25%, 50% and 100% concentrations have been prepared diluting this samples and onions (*Allium cepa* L.) have been rooted.

At the end of the studies the fall in mitotic index has been found important statistically according to the control in all the doses except 25% Çine doses in September and March.

In the study soil samples taken from three different regions in two different months caused structural chromosomal aberrations such as anaphase bridge, fragment, stickiness and wrong polarization in *Allium cepa* L. (onion) root tip cells.

It has been emphasized that the difference in all the doses except 25% Menderes, 25% Koçarlı, 50% Koçarlı doses in September and 25% Çine, 25% Menderes, 25% Koçarlı, 50%Koçarlı doses in March is important according to the control in total chromosomal aberrations.

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#### **Keywords:**

Chromosome aberrations, Mitotic index, *Allium* test, Genotoxicity