

Cytogenetically effects induced by the salts of heavy metals upon the mitotic division of Papaver somniferum L.

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The paper presents the influence of heavy metals upon the mitotic division of Papaver somniferum L. specie. The treatment with salts of heavy metals determined the lessening of the mitotic index and the appearance of chromosome modifications whose rate was different. This rate depends upon the concentration level and the period of action for the above mentioned substances in this experiment.

The salts of heavy metals used in this experiment are: CuSO4, CoSO4, Zn (NO3)2. Copper, cobalt and zinc are known as heavy metals, which make part of the category of essential oligominerals.

The treatments were applied for four hours, at Papaver somniferum L., in different concentrations. The concentrations we used were 1% and 5% for each substance. After the germination of Papaver somniferum seeds, in laboratory conditions at 22°C, the genetically displays were made. For each display, 40 microscopically fields were studied and there were counted all cells from each field in different division phases and chromosomal aberrations which appeared after the treatment.

In order to study the chromosomal frequency aberrations in ana – telophases, there can be observed the frequency of division cells and there were counted the ana – thelophases which presented chromosomal aberrations.

After the examination of the displays we observed the appearance of various chromosomal aberrations in ana – thelophases, like: micronuclei, retardate chromosomes, tripolar ana – telophases, bridges, fragments.