Czech Journal of GENETICS AND PLANT BREEDING

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Czech J. Genet. Plant Breed.

EMS induced intercellular chromatin transmigration in *Papaver somniferum* L.

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The phenomenon of chromatin migration was observed during microsporogenesis in an ethyl methane sulphonate (EMS) treated population of poppy, which is an important medicinal plant. Cytomixis occurred through a cytoplasmic channel or by direct fusion of pollen mother cells (PMCs); the former was more recurring than the latter. The process was associated with irregular meiosis. PMCs with differing chromosome numbers from the normal diploid number ($2n = 22$) through cytomixis may lead to the production of aneuploid and polyploid gametes. An increase in the concentration of EMS had a positive effect on the percentage of PMCs showing cytomixis.

chromosomal abnormalities were also found. Cytomixis along with the related chromosomal abnormalities largely affected the post-meiotic products resulting in some pollen sterility.

Keywords:

cytomixis; ethyl methane sulphonate; microsporogenesis; pollen sterility; poppy

[fulltext]