

## AN EVALUATION OF CYTOTOXIC POTENTIAL OF *TRIGONELLA FOENUM GRAECUM* USING *ALLIUM CEPA* ROOT MERISTEMS

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**Abstract:** The cytotoxic potential of *Trigonella foenum graecum* (fenugreek) a common spice, was investigated using *Allium cepa* root meristem. Stock solution was prepared by using serial dilution method and 100ppm, 250ppm, 500ppm, 750ppm and 1000ppm conc. were prepared. Root meristems of *Allium cepa* were treated with above mentioned conc. of Fenugreek for 2, 4 and 6 hours. Result revealed mitodepressive behaviour of the spice and it also caused various chromosomal aberrations. Disturbed metaphase, chromatid separation, breakage at metaphase, scattered metaphase stickiness of chromosomes and rings were predominant aberrations induced by Fenugreek. Polarity abolition, Chromatin Bridge and laggards were reported at anaphase. Mitodepressiveness of *Trigonella* is due to the presence of a steroidal substance Diosgenin which is used as a starting material in the synthesis of sex hormones and oral contraceptives. Excessive and indiscriminate use of fenugreek may cause abortion in females hence its overdosing should be checked and scientific dose must be prescribed. At the same time Diosgenin extracted from *Trigonella* seeds inhibits spindle formation in dividing cells and for this reason it can be successfully used in the treatment of cancer.

**Keywords:** Cytotoxicity, Chromosomal aberrations, Root meristems

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