

**ROLE OF DNA CONTENT AND BASE
RATIO IN THE INDUCED RADIATION
RESISTANCE OF SOME BACTERIAL
ISOLATES**

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BY

ABD EL MONEM SAYED BASHANDY

A thesis presented for the degree of Doctor of Philosophy

IN
MICROBIOLOGY

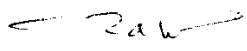
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1996





TO THE SPIRIT OF MY WIFE

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ACKNOWLEDGMENT

Firstly, grateful thanks to **God**, for indefinite blessing.

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Role of DNA Content and Base Ratio in the Induced Radiation Resistance in Some Bacterial Isolates

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ABSTRACT

The radiation resistance of some isolated bacterial strains isolated from the environment surrounding the Co-60 source in the NCRRT was determined .

Relationship between the radiation resistance and the DNA content and the "GC" ratio of the induced mutants of these strains were determined after repeated exposure of the parent strains to 6 cycles of γ -irradiation.

The DNA content was found to be increased with the increase in the radiation resistance, while the "GC" ratio was decreased with the increase in the radiation resistance.

The stability of this acquired characters was studied for induced mutants after storage for 12 month with repeated subculturing, and it was found that this acquired characters are stable .

The relationship between the DNA content and three different types of growth media was determined and it was found that the TGY medium is the best one to be used to give the highest yield of DNA content.

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