

138 Multiplier effect of Hypergravity on Mutation Induction

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The genetic effects of high-energy radiation (neutrons, heavy-particle radiation) were examined using a chromosome level mutation and a DNA level mutation of *Drosophilla* as indices. It is well known that high-energy radiation has large effects on living organisms. The rate of chromosome mutation was clearly dependent on the linear energy transfer (LET) of the radiation. The maximum effect was at about eight times the standard radiation (X-rays and gamma rays).

In experiments examining the genetic effects of hypergravity, we observed reduced larval survival. Moreover, the hypergravity of 100 *g* increased radiation induced mutation frequency about 30% with 40 minutes simultaneous exposure. The hypergravity also increased the mutation rates with no radiation about the same rate.