

The importance of genetic evaluation of
the wholesomeness of irradiated food

by

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The extensive research undertaken so far on the wholesomeness of food material and fruit juices sterilized or pasteurized with ionizing radiations indicates that much food does not cause any harmful somatic effect. No comparable data, however, exist with regard to genetic effects. Following the observation the chromosome aberrations occur in the root meristems of barley, onion and *Vicia faba* when they are grown in irradiated substrates, a detailed study was undertaken of the effects of potato mash irradiated with 20 Kr of X-rays and of orange and apple juices treated with 200 Kr of gamma rays on mitosis in barley. These data also revealed that such irradiated products have a weak radiomimetic effect, as measured by chromosome breakage (1 to 4). Mutation frequencies were calculated in *Drosophila melanogaster* reared on a basic medium pasteurized with 150 Kr of gamma rays, employing the standard Muller-5 tests. Both sex linked lethals and visible changes were two to six times more frequent in the irradiated series than in the controls (5). Similar experiments are in progress in mouse using the multiple recessive marker stock. The available

data from our studies as well as from published literature on the indirect effects of radiations emphasise the need for a more extensive and critical evaluation of the genetic consequences of a continuous consumption of irradiated food.

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