

MEDICINE

Chemical Allows Mice to Survive Lethal X-Ray Dose

➤ A CHEMICAL that helps mice survive lethal doses of X-rays is now undergoing further tests at the National Institutes of Health, Bethesda, Md.

Dr. Willie W. Smith of the National Cancer Institute reports her preliminary studies on the protective effect of colchicine in mice exposed to X-radiation, in *Science* (Feb. 14). She found survival was "considerably better" in mice that had been given the colchicine compound than in untreated mice exposed to the same radiation level.

Dr. Smith said the greatest difference in survival rate was about equivalent to an X-ray dose reduction of 20%. In five experiments with 75 mice, no untreated mice survived as long as two weeks after exposure to a 1,100-roentgen level in a Van de Graaff generator. Of those given an injection of trimethyl colchicinic acid methyl ether d-tartrate 24 hours before exposure to the same X-ray dose, from 45% to 80% survived 28 days.

Colchicine is a chemical now used extensively to breed new and more valuable plants, because it doubles the number of chromosomes when applied to germinating seeds or growing stem tips. It is also used to double the chromosome number of sterile hybrids produced by crossing widely separated species, resulting in fertile, pure-breeding hybrid species.

Dr. Smith is now studying whether this change in the survival rate after X-ray exposure is connected with the effect of colchicine on cell division.

Science News Letter, March 1, 1958

MEDICINE

Atomic Fallout Effects Duplicated in Pigs

➤ SKIN LESIONS in pigs resembling those caused by atomic radiation have now been reproduced in the laboratory for the first time, Col. Carl F. Tessmer, Armed Forces Institute of Pathology, Washington, D.C., reported to the American Academy of Dermatology and Syphilology meeting in Chicago.

The skin changes duplicated the ones that were caused by beta radiation from atomic fallout on cattle in New Mexico in 1945 and on the Marshall Islanders accidentally exposed during Pacific tests in 1954, Col. Tessmer reported.

These two accidental exposures to beta radiation represent probably the most severe lesions of the skin to be expected from fallout. Experimental duplication of them will help in a study of the complete life-cycle of the skin condition.

The lesions were produced in miniature pigs by a Van de Graaff accelerator and could be varied in depth and intensity.

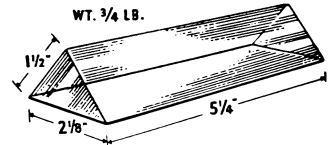
While the major hazard in atomic fallout is still the more penetrating gamma or X-rays, which damage internal body organs, relatively serious skin damage and long-term changes in the skin are possible due to the beta particles or "electrons."

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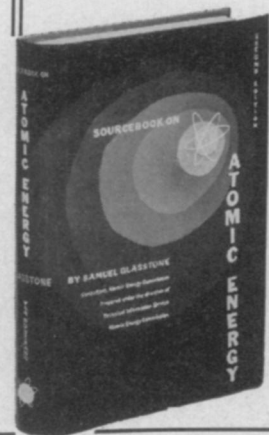
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