In other experiments it was established that, for the *LSA* tumour, cell dissolution is rapid following 5,000 rads of X-irradiation[1]. It follows an intermitotic mechanism characterized by pyknosis and autolysis such as described for the normal lymphocyte by Schrek[7] and Trowell[8]. Hence, it can be expected that the dissolution of the irradiated cells is nearly complete in one day.

Those data would indicate that the thymidine of DNA is salvaged during the process of cell death of the irradiated lymphoma cell. This may take place as thymine, thymidine, at a more complex level, or even at a combination of several degradation-levels. It is likely to be a steady and continuous process of transfer such that the administration of exogenous thymidine does not completely inhibit the transfer. Other pathways such as have been suggested[9] are not excluded. Cell death, presumably in tissues with high rates of turnover, may thus provide a partial basis for delayed transfer and label conservation reported by others[9].

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Dependence of the Electrical Conductivity of Barley Seeds on Temperature

RECENT work on the induction of photoconductivity in barley seeds (*Hordeum vulgare*) by ionizing radiations[1] has involved the measurement of the electrical conductivity of normal unirradiated seeds at different temperatures.

A single seed, with a water content of about 9 per cent of its weight, clamped firmly between metal plates at 20° C has a resistance of about 10^9 ohms. When a seed is heated from 20° C to 90° C the conductivity increases by a factor which is generally between 200 and 300. Fig. 1 is a typical curve which illustrates the growth of the conductivity to a maximum value as the seed is heated, followed by a slow decline. The decline is probably caused by loss of water vapour during the heating, as seeds generally lose about 3 per cent of their weight during this process. To test this, seeds were dried under vacuum so that samples were obtained which had lost 1, 2, 3 . . . up to 6 per cent of their weight. A graph like Fig. 1 was measured with a seed from each class, and the maximum conductivities attained at 90° C are plotted against the weight lost in the vacuum drying process in Fig. 2. The maximum conductivity increases markedly with the moisture content. Nevertheless, there is as great a multiplication of conductivity from 20° C to 90° C with a very dry seed as with one less dry.

The conductivity is reduced by chilling.

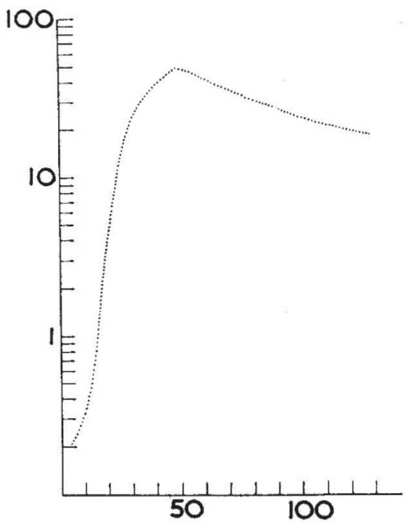

Fig. 1. Ordinate scale, electrical conductivity of a barley seed in units of 10^{-9} amp/V; abscissa scale: period of heating at 90° C (min)

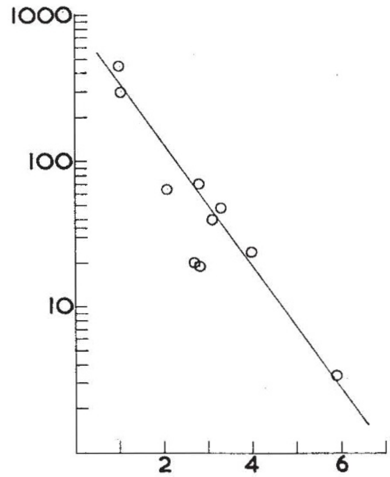

Fig. 2. Ordinate scale, maximum conductivity attained in a curve like Fig. 1; abscissa scale, percentage of weight lost in a vacuum drying process before the conductivity measurement

A curve somewhat similar to Fig. 1 has been obtained with a pellet of filter paper in place of the barley seed. Presumably the change in conductivity arises from a redistribution of moisture under the influence of the temperature increase, perhaps from strings of minute globules along fibres to a more continuous distribution.

It seems possible that this dependence of conductivity on temperature in a readily available material may find practical application.

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Effect of Post-irradiation Incubation Conditions on Recovery between Fractionated Doses of X-rays

ELKIND[1] first demonstrated the ability of mammalian cells to recover rapidly from sub-lethal X-ray damage so that a second radiation dose delivered after an interval was less effective in reducing cell survival than the same total dose delivered as a single exposure. The recovery had a clearly defined structure with a rapid decrease in