CABLE ADDRESS "RESEARCH"

IN YOUR REPLY PLEASE QUOTE
FILE No.....

NATIONAL RESEARCH COUNCIL

CANADA

ATOMIC ENERGY PROJECT

CHALK RIVER, ONT.

April 22, 1948.

Dr. Joshua Lederburg,
Department of Genetics,
University of Wisconsin,
Madison, Wisconsin,
U.S.A.

Dear Dr. Lederburg:

You will doubtless remember having mentioned last Christmas your observations of sectored lactose positive-lactose negative colonies from irradiated E. coli. Evidence from such material would seem relevant to a study of "delayed effect" of irradiation which I have just completed, and I would be interested to know whether you have done anything further along these lines.

My own preliminary results using mutations from B/r to B/r/1 indicated that delayed phenotypic expression alone could not explain a delay of twelve generations. This left two possible interpretations: (a) delayed mutation, and (b) delayed division of induced mutants, plus delayed phenotypic expression. The evidence is now pretty conclusively in favour of the second of these.

If there is no delayed mutation then your sectored colonies would indicate the presence of two or more nuclei (or other forms of gene reduplication), and there is just a possibility that delayed phenotypic expression is the result of such reduplication, although I think it unlikely. For this reason I would be interested to know whether you are doing anything further with your materials.

I am sorry not to have got off to you the reprints of the chromosome and chromatid interference studies which you requested, but have been unable to locate them so far. Huskins is unfortunately down to his last few copies.

With all best wishes to yourself and Mrs. Lederburg.

Yours sincerely,

Howard B. Newcombe

HBN/lml

H. B. Newcombe.