

18th. April, 1929.

Dr Mordecai Ezekiel,
U.S. Dept. of Agriculture,
Bureau of Agricultural Economics,
WASHINGTON, D.C. U.S.A.

Dear Sir,

In my paper on the influence of rainfall on the yield
of wheat,

Phil. Trans. B, 213, p. 92

I suggest an adjustment to the multiple correlation coefficient
which would reduce the average value of the estimate of $\rho^2(A_1)$
to the true value of ρ^2 . I think this is the adjustment
you have in mind. Since then I have obtained the exact
distribution of the Pearsonian estimate R^2 , so that the
approximate adjustment previously suggested has been superseded.

The true distribution shows, as was to be expected, the
large positive bias for small samples, especially when several
independent variates are used. The tabulation of the true
distribution will be a considerable task but I believe the
best available method for samples too large for the use of the
exact formula will be found in the table of B, p. 665 of the
enclosed reprint.

Yours sincerely,

*Ray. Soc. reprint enclosed
multiple correlation.*