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May 12, 1932

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Dr. R.A. Fisher,
Rothamsted Experimental Station,
Harpenden, England.

Dear Dr. Fisher,

I am just back from a long trip to North of Brazil, and had been planning your modern methods of field experimentation for all cotton experiment stations and seed farms.

These experiments are being made with fertilisers, variety tests, spacing, date of sowing, etc., the plots being 10 by 5 meters for annual cottons, and 20 by 10 for perennial ones, both in randomised blocks and latin squares.

In cotton spacing experiments, for instance, we want to know which spacing is the best on a basis of yield. But as you see the number of plants in one plot is given in terms of spacing, these numbers varying from 200 to 44 in five different spacings, as follows:

1. 1.00 by .20 centimeters
2. 1.00 by .40 "
3. 1.00 by .60 "
4. 1.00 by .80 "
5. 1.00 by 1.00 "

Wouldn't you think that for computing the yield it is necessary to make use of the stand of plants? You said the stand would seem a very inadequate basis on which to judge of yield, though I understand that all cotton experiment stations in the United States do make use of it to judge of results. In which way we are to compare the result among these five experiments, being very probable that the more the number of plants in one plot the higher the yield?

By the other side, I have the result of a cotton fertiliser experiment recently made in randomised blocks, and have the analysis of variance calculated for both actual yield and yield on a basis of 77.6% of stand, and the results seem to be a bit different, though the 5% point of significance is far away to get at, as you can see through the figures I am sending you herewith.



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Dr. Fisher (2)

Nº _____

I would certainly be very much indebted to you if you could kindly give me your opinion about. I ask you to be kind enough to answer these questions, as I feel I have many more to ask you in the near future.

I am glad that for the first time in this country we are having all field experiments being made on a standard basis, and that everyone is doing his best to get good result.

I have written something from what I have learned with both of you and Dr. Wishart, and hope that I shall very soon be able to present you the result. I am sending you by separate cover a lecture given before the Brazilian Society of Agronomy.

I have ordered ten copies of your book "Statistical methods for research workers", and "The genetical theory of natural selection". The Rothamsted report for 1930 has been received, and I would like to have my name on your mailing list to receive future issues of the same, as well as any paper on these lines issued by your Department.

Very sincerely yours,

A. O. Franco
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M/AF.