

5 February 1932.

Dr. E.S. Beaven,
Douglas Mansions,
Cromwell Road,
London, S.W. 7.

Dear Dr. Beaven:

I understand and appreciate the consideration which has led you to refuse to act as examiner to Kalamkar. Obviously he is not to blame for anything misguided about my methods, and has earned his Ph.D. if he has applied intelligently what he has been taught. It is a little unfortunate for him as he is kept hanging on in England after the expiration of his scholarship allowance, but I fear nothing can be done about that.

I agree with you entirely as to the importance of an economic object; you are preaching to a preacher on this topic. But if you find the manurial tests at Rothamsted not sufficiently interesting from the point of view of farm economics you must deal with the Director about it. I am only concerned with the later question: If it is decided to compare Sulphate with Chloride of Ammonia as top dressing, how can it be done with the greatest possible accuracy for the labour and expenditure allowable? The utility of the

aim has nothing to do with the utility of the means of carrying it out.

As regards the practicability of the Latin Square you must remember that I have reports from agronomists with all possible levels of technical equipment working in Africa, India, Australia and America, besides less frequent sites, who have found it not only practicable but eminently well adapted to their requirements. They are carried out for each purpose by the ordinary farming methods, and manual methods are not needed more than in all small plot work. There is nothing in the arrangement to prevent each plot being an acre or more. Though, as quite a separate point from the method of arrangement, there is ample evidence that moderately small plots, though not the smallest which have been tried, give the most information for the labour expended. I am entirely at one with you on stressing the necessity for using agricultural treatments only in field trials, other wise they might as well be pot cultures.

I advocate strips for a good many purposes, especially for cultivation trials, though, of course, the strips should, in my view, be randomised. If the strips are systematically arranged, then, however many of them you may have, the estimate of error from the differences, (mean or mean square,) from the means of each variety or treatment are liable to be vitiated. Randomisation is a simple and complete solution for this difficulty, and I have always been sorry that you do not appreciate this.

With respect to pp. 8-10, I should find it easier to know where I agree and where I disagree with you if you took an actual rather than a remotely hypothetical example. I see no logical contradiction in several comparisons from the same data having the same precision. Any single case in which I have drawn a wrong conclusion would, of course, make me wiser. I have no objection to making allowance for the different variabilities of varieties or treatments, wherever it makes the slightest appreciable difference to the result, *let alone buying frocks!*

Yours sincerely,