June 3, 1937

Dear Yates,

Thanks for your letter. I think you will like Forster, who will have a good deal to do with experimental design when he returns to Australia. He is decidedly keen on master (a) complex confounding experiments, (b) rotation experimentation, and (c) your wheat sampling technique. I suggested he should register with you for a couple of months, but I hope he will feel entirely free to drop in here, either for consultation or computing, whenever he is in town.

I saw Mr Grant of Oliver & Boyd the other day, and find that, if we can rush our material through to completion by the end of this month, he could have the Tables on view at the B.A., which would, I think, give them a decent start: but we have only a very short time.

My interpolation rule for the table of quantiles is for people with the table before them, who have in their data a minority of fractions with larger denominators. For these it would be much quicker than hunting up another table.

Bliss gives essentially three tables. I presume the copyright rests with the Annals of Applied Biology, who would presumably, as would also Bliss, consent to republication. The first of these is essentially deviates for each permille, as in Tables for Statisticians No. 1. It has also an extension beyond

98% giving four-figure deviates for each ten-thousandth. I have been using it for the Artemia work here; but it was the great preponderance of simple denominators that led me to make the new table. This first table would go into about two pages and a half. Alternatively, the first 50 percentiles could be omitted.

The second table is shorter and gives for probits by tenths the values to be ascribed for 100% or zero% killed, i.e., it is $x + \frac{q}{z}$ It needs completion from 5.0 to 5.5, and I find a column $\frac{x+q}{z}$ is also somewhat lower needed of $\frac{x-p}{z}$. This could all go in one page, or even less. For its purpose it is really useful, since $x - \frac{p}{z}$ 100% killed is not uncommon.

His third table gives $\underline{x}$ by tenths, $\underline{p}$ to thousandths of 1%, and the weighting coefficient $\frac{z^2}{pq}$. In this case I should be inclined to take only from 5.0 to 8.9, i.e., to leave out the first half of the table though, as in the other cases, I should like your opinion also about this.

What is urgent is that we should soon meet and subdivide the whole of what remains to be done, so as to push it through without delay. Of course Bliss's first table is almost the same as my table of x, by thousandths and partially by ten-thousandths, giving 4 decimals in place of 6, with the probit convention of adding 5 to the deviate and the single tail convention for the probability.

I am glad to have your χ table, though the exaplnation of its use is difficult, I think it can be puzzled out - except perhaps the last sentence.

log p/(1-p).

I think $\frac{\log p}{1 - p}$ is a good idea, but am not sure how find a subdivision should be used.

Yours sincerely,