

MINISTRY OF AGRICULTURE AND FISHERIES.

J. C. F. Fryer,  
Director.



Plant Pathological Laboratory,  
Milton Road,  
Harpenden,  
Herts.

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Dear Fisher,

A month or two ago we had some discussion as to the possibility of extending the "precision" work to include observations upon pests and diseases, and I believe I undertook to cogitate upon the matter. This I have been doing, but without any very satisfactory results. There appear to be two possible methods of procedure, each with some serious disadvantage.

(1). The attacks of some pest or disease could be determined by sampling methods upon crops grown specially in connexion with the precision scheme - e.g., wheat. The disadvantage is that the number of stations is so few and the incidence of any given pest or disease so irregular that the data obtained is likely to be too scanty to justify any conclusions.

(2). Similar methods could be carried out in the case of some crop grown commercially. In this case it is necessary to rely upon relatively unskilled volunteer assistants who have their own proper work to do. The sampling technique must therefore be so easy and simple that it can be carried out almost without effort and as part of the assistant's daily routine. The disadvantage here is that there are very few pests which lend themselves to such an easy sampling technique. Perhaps the most simple of all is the attack by Frit Fly on the oat kernel, and on three occasions we have attempted to do something with the species. The general lines were as follows:-

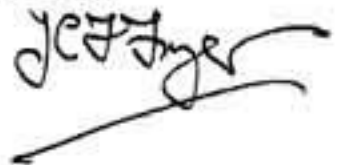
Those collaborating with the scheme were asked to obtain about one hundred ears from any field they might happen to visit just before harvest. The ears were sent here, threshed, and the grain mixed and spread out on a flat surface. Three or four samples were then drawn and in the earlier years (1918-19) the samples (three) were mixed and analysed, but in the last year (1927) four samples were

drawn and analysed separately. As shewing the sort of data I enclose sample cards from 1918 and 1927 surveys.

About two hundred samples seem to have been sent in in each survey, and if you think the data worth further examination I shall be very glad to let you have the cards. If you consider it worth while we might have another go at the Frit problem, but I am inclined to doubt whether the volunteers who have helped me in the past could be persuaded to make a survey as an annual event although I have no doubt we could obtain their collaboration every 4th. or 5th. year.

As to the subject in general, however, I am wondering whether it would not be possible to find some compromise between a full precision scheme and one of a purely observational character. When we next meet I should much like to explore this further as I almost despair of touching the pest situation as a whole by any precision scheme likely to be evolved within the next hundred years. The problem is as appalling as it would be for the soil chemist if the major characteristics of any soil were liable to change year by year, making an annual soil survey a necessity.

Yours sincerely,

A handwritten signature in cursive script, appearing to read "J. C. Fisher", with a long horizontal flourish extending to the left.

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