

25 August 1930.

Professor Bhai Balmukand,  
Punjab Agricultural College,  
Lyallpur,  
India.

Dear Balmukand,

Thanks for your long and interesting letter. I am now just replying briefly on the problem about white fly on cotton, which you put to me.

I take it the pest is an aphid, and increases very rapidly. If this is so the central difficulty in obtaining comparable figures will be to fix the right time or times for sampling the crop. The other difficulties connected with obtaining a random sample of plants, branches and individual leaves could I believe be got over relatively easily by a series of random samplings designed to represent the whole area while obtaining an ultimate sample of leaves not too big to count over. With an organism which may increase many fold in a week it is, however, of the greatest importance to know when to take the samples. One would naturally aim at obtaining for each year, or for each treatment in the same year, the extent of maximum infestation, for near the maximum the time changes should be least, and the maximum

and the maximum infestation is a reasonable measure for crop damage; but when does this maximum come. Perhaps there are climatic indications, such as that the maximum is always reached shortly before the rains. Any such indication which can be established would be most valuable, and I am inclined to suggest that the preliminary work, which should also help much in the perfecting of the sampling technique will consist in a research to discover when the maximum infestation occurs. For this purpose a large number of samplings, e.g. every week, must be made in the same season, in as many different conditions (time of planting, irrigation etc.) as is possible, so as to satisfy the investigators that they will know when to take the samples designed for measuring comparative infestation of different crops.

In some haste,

Yours sincerely,