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"1954 VENEZUELAN RICE PROGRAM"

Preliminary Technical Report

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The above-mentioned report was published in June, 1955, by the IBEC Research Institute as an account of the experiments performed in 1954 at the Hacienda Palo Gordo, Acarigua.

On studying this very bulky report, 429 pages long, the reader's original interest will very soon give way to deep disappointment and amazement at the way in which time, money and labour have been illspent, in carrying out a relatively small programme of tests.

The present writers have, however, taken the pains to struggle through the entire book, to enable them to form a just idea of its value.

If the report is viewed from the standpoint of the agricultural statistician, the following comments can be made :

1 The work is not really a scientific publication but a detailed record, in which almost all data concerning the tests have been filed. For this reason the whole is indigestible and tiring to read, the more so because the same remarks are repeated over and over again at different places in the book.

2 Generally speaking, the conclusions reached do not give a logical picture of what has been learned from experiment. The conclusions consist of a summary of a number of significant and non-significant differences in which virtually no connecting thread of basic principle is discernible. The results of trials are only valuable if it is possible to interpret them in agricultural terms.

3 Some of the very large number of tables could be dispensed with because they contain no information ; certain of them comprise only one figure, which is thus repeated in every place in the table.

4 The trials seem to have been extraordinarily imprecise — in some cases so imprecise as almost to be pointless. In rice, this can be seen from the coefficients of variation which, in properly performed trials, ought to be in the neighbourhood of 10%. In the present trials coefficients are met with of 35%, 41%, 61% and 76%, which appear to be abnormally high, even if the trials were laid out in an extensive way. On the other hand, the number of parallel plots has not been increased — a measure which would have been highly desirable in such a case.

5 One wonders whether, in conjunction with the previous remark, there is any point in meticulously determining the yield per trial plot down to grammes.

6 What purpose is served by including a report with tables filling 24 pages on trials which have obviously failed ?

From the standpoint of the agriculturist, the following criticisms can be made :

a What was the purpose of this series of trials ? Why does the introduction say nothing about the object it was hoped to achieve by them ? Is the series correlated with an already existing agricultural system, or has such a system yet to be developed ? Is the object

in view the improvement of native agriculture, or is it the interest of plantation agriculture that is being considered ?

b Although crop counts on the 5th and 15th days after the crop has come up still serve a purpose in connection with the comparison of various herbicides, it is impossible to avoid asking oneself whether these very time-consuming occupations are sufficiently justified in the case of manuring and plant-spacing trials. Such counts can probably be carried out just as easily in the laboratory, where they would take considerably less time.

c What value can the reader attach to the results of plantspacing and manuring trials for one year when there is nothing to be found in the whole report regarding comparative climatic data for other years ?

d As, according to the "Acknowledgments", these tests were financed not only by the Rockefeller Brothers Fund but also by the Creole Petroleum Corporation, the latter are, of course, quite within their rights in requiring the majority of the trials to be devoted to investigating herbicides — as has in fact been the case. It is, however, highly unscientific to ignore completely the very favourable results achieved by hand-weeding in weed control as compared with those achieved by herbicides. In that case it would have been better not to have included this particular treatment at all.

Summing up, one sees that this very voluminous work consists only of the reports on twenty-one trials, five of which, moreover, can be regarded as total failures.

In our opinion, a great part of the labour expended in carrying out these trials, viz. the collection and treatment of data for a large number of tables, was unnecessary. The time and money involved could have been spent far more effectively by increasing the number of trials and collecting rather less data. This would certainly have enhanced the reliability of the net results. It can therefore be said that it will be necessary to look for a quite different method of experimentation, and also a method of publication which shows, in concise, comprehensive form, what knowledge the compiler has gleaned from his experiments. A desire to support conclusions with concrete evidence is very laudable, provided the evidence does not lead to the report in question becoming altogether unreadable.

The extensive fashion in which the methods of mathematical statistics have been applied to the trials almost induces the impression that statistical treatment of the results of the trials has been regarded as more important than the implications of those results for practical agriculture. In this connection we should therefore like to conclude with the following quotation from the chapter on "Considerations of Policy and General Procedure" in a recent publication, "Principles and Practice of Field Experimentation", by J. WISHART and H. G. SANDERS :

"In these days it is difficult, but very important, to keep a sense of proportion over this question of experimentation. The statistical side has been given so much prominence in recent years that there is a real danger of statistics being regarded as the main interest in experimentation. The science of statistics is, however, only a weapon in the experimenter's equipment, and it must be allowed no greater place in his thoughts than the chemical or botanical techniques he employs".

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