Dr. E. W. Allen, in his address as Vice-President of the Agricultural Section, American Association for Advancement of Science, in December, 1921, said that "certain types of work have not been marked by growth, vision and method, with the result that conclusions drawn from them are of doubtful scientific value." He indicated his belief that "we have not yet learned how to interpret, except superficially, the answer which the soil and the plant give as just what has happened or what the apparent effect is due to, we have not yet learned how to examine a plot of soil so as to determine the changes occurring from time to time or brought about by long continued systems of treatment, or how to connect these changes with the response of the crop in a given season or period. Indeed relatively little study is now given in such experiments to the soil itself, and only to a limited extent are underlying questions suggested by such experiments being intensively studied." A statement of this character coming from Dr. Allen is worth more than a brief reflection. It calls for a pretty thorough examination of any line of research, especially in crop production, a subject which deals particularly with climatic and soil factors in their most complex form.

Studies in the field performance of crop varieties, or strains, have been planned in a sort of haphazard way, with no very great thought of the accuracy of the results. It is not at all uncommon to find published data which are based on only two or three years' work and from only a single plot in each season. Cultivation experiments on corn have been long continued, yet it is well nigh impossible to draw reliable conclusions because little or nothing is known of the life cycle of the corn plant. A vast amount of money has been spent on corn diseases, but today progress is handicapped because the soil physicist and biologist were not called in time. The whole crop disease problem seems at times to be so tied up with soil problems that one may question whether or not the task belongs to the soil research worker as much as it does to the plant pathologist. At any

1Paper read as a part of the symposium on "The Utilization of the Soil Survey" at the meeting of the Society held in Chicago, Ill., November 13, 1923.
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