

**PRACTICAL
AGRICULTURAL
CHEMISTRY**

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Practical agricultural chemistry by S. J. M. Auld & D. R. Edwardes-Ker

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PREFACE

THIS book is intended as a practical handbook in Agricultural Chemistry for Students working through courses of instruction for the London B.Sc. degree in Agriculture and other examinations of similar type and standard.

In order to avoid the baldness that cannot be dissociated from a mere list of practical experiments, a short theoretical discussion has been given where necessary before each series of operations, in order to recall to the mind of the student the more salient points in connection with the practical work he has in hand.

Emphasis has been placed on the qualitative side of the subject to a greater extent than is frequently done. It is a matter of extreme regret that many of the students who leave our Agricultural Colleges do so with very little appreciation of the practical value of chemistry to agriculture, and with no more than a theoretical insight into the mechanism and meaning of the countless changes with which they are destined continually to come in contact during their agricultural career. This is often due to their having spent most of their time in the chemical laboratory in working through analytical processes, the intricacies of which have had little meaning for them. It seems to us that

the teacher of Agricultural Chemistry should insist on his students using quantitative work largely as a means of interpreting principles or expressing ideas, and not regarding it as an end in itself. It must be borne in mind that those taking such a course of study are primarily agriculturists and not chemists.

Nevertheless, with students of a higher standard, and with those intending to specialise, quantitative Agricultural Chemistry has its place, and the methods given in this book have consequently been carefully chosen, and may be relied upon, as standard or approved processes.

Throughout the book a fair knowledge is assumed on the part of the student of the commoner qualitative and quantitative processes of general chemistry, while in cases of estimations which are not generally included in a course of pure chemistry, such as, for example, the determination of the Iodine Value, Reichert-Meisss number, etc., full practical directions are given. It may be also mentioned that all the experiments described in the text have been personally worked through by one or both of the authors.

The authors are indebted to the standard text-books on the different subjects included under the head of Agricultural Chemistry, especially Hall's *Soil*, Hall and Russell's *Practical Exercises in Agricultural Chemistry*, and Droop Richmond's *Dairy Chemistry*; they also wish to thank Mrs Auld and Mr L. S. Charleton for the line drawings given throughout the book, Mr H. Wormald, B.Sc., for the photomicrographs of starch granules, Messrs R. H. Carter and J. Amos for the

photographs of apparatus, and Mr R. H. Carter, in particular, for preparing the index.

In order to facilitate any subsequent communications with regard to the text, and to avoid confusion, it is desirable to ascribe the various sections of this volume to their particular writers. They are as follows:— Sections II., III., IV., and VI. (S. J. M. A.); Sections I. and V. (D. R. E.-K.).

S. J. M. A.,
READING.

D. R. E.-K.,
WYE, KENT.

September 1912.

