

**THE FARMER'S MANUAL OF
AGRICULTURAL CHEMISTRY, WITH
INSTRUCTIONS RESPECTING THE
DISEASES OF CEREALS, AND THE
DESTRUCTION OF THE INSECTS WHICH
ARE INJURIOUS TO THOSE PLANS**

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The Farmer's Manual of Agricultural Chemistry, with Instructions Respecting the Diseases of Cereals, and the Destruction of the Insects Which Are Injurious to Those Plans by A. Normandy

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A. NORMANDY

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Alphonse (Père de La Hire)
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P R E F A C E .

UNTIL a comparatively recent period agriculture may be said to have been scarcely anything more than a mere manual art, the practice of which was limited to the almost servile observance of certain empirical rules, the result of the experience of ages, but too often applied without intelligence or discrimination.

This stationary condition of an art which dates from the remotest times on record was due, on the one hand, to the want of education on the part of the cultivators of the soil, who could not understand, and were perfectly unable to investigate, the rationale of agricultural operations discovered by chance and consecrated by usage; and, on the other hand, to a deficiency in the means of acquiring the necessary knowledge, for the sciences which bear directly upon agriculture were then either unborn or in their infancy; or else being cultivated exclusively as independent sciences, they remained altogether in the hands of the savans, who besides, in former days, cared but little about making themselves intelligible to the profane. Science had not been popularised.

Sixty years ago the connexion which exists between chemistry and agriculture was scarcely suspected, or if suspected by a few minds of unusual shrewdness, it was more intuitively, so

to speak, than otherwise ; at any rate the means by which the connexion might be traced were deficient, as well as the knowledge of the processes by which it could be brought into practical use.

The admirable lectures delivered by Sir H. Davy before the Board of Agriculture, from 1802 to 1812, may be said to have created a new era in agricultural matters, and the advancement of that department of human knowledge may be dated from that time. He it was who first gave the impulse, first diffused light into that chaos, first reduced it to a regular and systematic form, which has since been so much extended and improved, more especially within the last few years by the labours of Liebig, Boussingault, Payen, Johnston, and other eminent chemists.

The works, however, in which their researches and observations are consigned, are either too theoretical to be understood by the majority even of well informed readers, or take a wider range than may be wanted for immediate and practical purposes. Professor Johnston's excellent and much esteemed book, "Elements of Agricultural Chemistry and Geology," is a popular treatise on the principles of these two sciences ; but, as in most of the other books to which I have been alluding, it does not give, nor does it profess to do so, any practical directions on the means of determining the composition of arable lands, of ascertaining the presence of the constituents which are necessary for the culture of particular crops, of analyzing manures, &c. &c. It is this want which, at the request of Messrs. Knight and Sons, I have

endeavoured to supply, and it is for the candid reader to decide how far I have been successful in the accomplishment of that task.

Amongst the persons engaged in agricultural operations, many, I know, are possessed of considerable chemical knowledge, wherefore it is not for them that this little book has been written, though possibly, even they may find here and there a useful hint, or be reminded of things for the moment forgotten; others, however, and it is the largest number, are ignorant of chemistry, or but moderately conversant with that science, it is to them that the present work is more especially dedicated; and in order, as much as possible, to adapt it to various requirements, I have devoted Chapter IV. to the description of the simple tests by which the presence of the ingredients of soils may be recognized, and have related in Chapter V. the methods by which the relative amount or proportion of these ingredients can be approximatively determined; whilst Chapter VI. contains practical instructions for the more regular and precise analysis of soils.

Lastly, with a view to render the work still more useful to the Farmer, I have been induced to add two chapters which were not originally contemplated; one is, on the principal Diseases of Cereals; the other, on the insects which are injurious to those plants, with the curative or preventive methods for both plagues. And I may say that, although that portion of the book is scarcely anything else than a compilation, yet it has proved to me the most arduous task, and that which has consumed most of my time in getting it up.

The works from which I have mostly borrowed the requisite information are, Sir J. Banks's Short Account on the Disease in Corn; L'Abbé Tessier, *Traité des Maladies des Grains*; Mathieu Tillet, *Dissertation sur la Cause qui Corrompt les Grains de Blé*; The Quarterly Journal of Agriculture; Girardin et Dubreuil, *Elements of Agriculture*; The Gardener's Magazine; F. Curtis's Catalogue of the Plants growing Wild in the Environs of London; Köllar's Treatise on Insects injurious to Vegetation; Stephens's Illustrations of British Entomology; Germar, *Magazin der Entomologie*; Latreille's *Historie Naturelle*; Westwood's *British Moths*; Cuvier, on Insects; Dr. Giuseppe, *Gené Sugli Insetti piu nocivi alla Agricoltura*; Bonaventura Corti, *Storia Naturale di quegli Insetti che rodono le Piantine del frumento in Erba, &c. &c.*

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PUBLISHER'S NOTE.

The whole of the following pages were in type as far back as October, 1851, but from press of business the Publishers were unable to issue them to the Public until now, and although they are not aware of anything having been published that could supersede the contents of this work, still, in justice to the Author, they think it right to append this note.

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