

**THE PERPLEXED FARMER: HOW IS HE
TO MEET ALIEN COMPETITION?
THREE LECTURES GIVEN AT BRUSSELS
BEFORE THE BELGIAN ROYAL
CENTRAL SOCIETY OF AGRICULTURE**

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The Perplexed Farmer: How Is He to Meet Alien Competition? Three Lectures Given at Brussels Before the Belgian Royal Central Society of Agriculture by Georges Ville & William Crookes

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GEORGES VILLE & WILLIAM CROOKES

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Three Lectures

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BEFORE THE BELGIAN ROYAL CENTRAL SOCIETY OF AGRICULTURE

BY

GEORGES VILLE

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PREFACE

TO

THE ENGLISH EDITION.

IN laying a version of M. Ville's last work before the British public the Editor wishes to point out that it resolves itself into two portions, interwoven with each other, but so distinct in their purport that the one may be accepted without approval of the lessons of the other. The purely technical, agricultural part of the work is an admirably clear and luminous summary of the teachings of M. Ville's larger work, 'Artificial Manures' (Longmans and Co.) It contains much additional practical evidence on the successful working of the author's system of artificial manuring. The theory of 'dominants' is enforced by actual experiments carried out not only in France but in other countries. The use

of the plant itself to effect the analysis of the soil is well explained.

As a specimen of the experiments bearing on this important point we cite a portion of a pamphlet published by M. P. de Bilderleig, a Russian nobleman who takes a great and active interest in the advance of agriculture. He writes :

‘ Last year there appeared in our periodical press treating of agriculture a paragraph to the effect that M. G. Ville, the eminent French agriculturist, director of the experimental field of Vincennes, promised to publish shortly a manual concerning the means of defining the chemical composition of the soil which produced plants according to their external characters.

‘ The promise was attractive. The studies of M. Ville are sufficiently known ; his theory of chemical manures, his first origination of experimental fields on purely scientific principles, and, lastly, his theory of sideration, which has attracted so much attention among us, are estimated at their just value by all those who interest themselves in agricultural questions.

‘ In a series of articles inserted in the “*Revue Scientifique*” (December 1889, February and May 1890), M. Ville published the results of his researches on the development of vegetation under

the influence of, and in dependence on, the composition of the soil.

'These articles are entitled "Analysis of the Soil by Plants." They represent a method as novel as unlooked-for of investigating the phenomena of the inner and outer life of plants, and may justly be regarded as the commencement of a new era in our practical knowledge of the elements of the soil.

'This is what was said by M. Stanislas Meunier in his report of the meeting of the Academy of Sciences at Paris on July 21 :—

"It was in the midst of the sustained attention of his hearers that Professor Ville communicated the remarkable results to which we are led by the use of plants as reagents concerning the composition of the soil upon which they have been developed. The facts in question have indeed considerable importance from a practical point of view, as well as from that of pure science, and we may say that the learned author opens up a new way for researches in vegetable physics."

'I add on my part, as an admirer of the experimental method adopted by M. Ville for the solution of questions concerning practical agriculture, that the researches and the results to which he has been led represent by their practical consequences a

scientific study of exceptional value. We may boldly say that they are like the rare achievements which are marked in the annals of science and of practical life by a brilliant train of light, and that they must rank among those conquests of the human intellect which form epochs in the development of natural science.

'The translation of the researches of M. Ville has unfortunately not been published in our periodical press, on account of the difficulty of reproducing the diagrams, without which the conclusions of the author are deprived of the evidence in which their persuasive power justly lies. This has forced me to publish this study in the form of a pamphlet. The question of the necessity of organising agricultural experimental stations having been raised also among us, we may hope that the propagation of indications so useful and practical as the method inaugurated by M. Ville will be favourably received.

'In conclusion I will permit myself further to quote certain interesting facts drawn from the same *Compte Rendu* of the Academy of Sciences, which illustrate the scientific labours of M. Ville, concerning the definition of the degree of sensibility of living organisms to phosphoric acid.