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SHORT REVIEWS

AGRICULTURE AND HORTICULTURE

Los Suelos de la Peninsula Luso-Ibérica (Soils of the Lusitano-Iberian Peninsula) (Spain and Portugal) By Emilio H. del Villar. International edition in Spanish and English, the English Text (somewhat abridged) by Prof. G. W. Robinson. Pp. 416. (London: Thomas Murby and Co., Ltd., 1937.) 40s. net.

THE problem of devising a universally applicable system of soil classification calls for a wide knowledge of the soils found in different parts of the world as well as an intimate acquaintance with soils in the field. An attempt at devising such a system is made, by a pedologist with both these qualifications, in Prof. del Villar's work on the soils of Spain and Portugal.

Prof. del Villar groups soils according to their stratigraphy, composition and metabolism, choosing those factors which most directly affect vegetation. Seven main series are distinguished, including acid-humic, siallitic, calcareous and hydropedic groups. The calcareous series, which embraces *rendzina*, *terra rossa* and the peculiarly Spanish *calvero* soils, is perhaps the one which will prove of most interest to soil workers beyond Spain, since information on soil processes under Mediterranean conditions is still comparatively meagre.

The somewhat refreshingly unorthodox system of classification described appears to fit the soils of the Peninsula adequately and satisfactorily, but it is doubtful whether it could be generally applied to soil groups occurring elsewhere. Prof. del Villar's exposition of his system of classification includes many ideas and points of view which throw a new and constructive light on the difficulties of soil taxonomy, and the book is one which students of this comparatively undeveloped branch of pedology would do well to study.

The book is printed in Spanish, but it contains abridged English translations of each chapter, in which Prof. del Villar's views are clearly set forth. The translator, Prof. G. W. Robinson, in a prefatory note, adds tribute to the importance of the work, which, he says, must inevitably modify current ideas on soil genesis and classification.

The Soils of Palestine

Studies in Soil Formation and Land Utilization in the Mediterranean. By Dr. A. Reifenberg. Translated by Dr. C. L. Whittles. Pp. viii + 131 + 8 plates. (London: Thomas Murby and Co., 1938.) 14s. net.

THIS authoritative account of soil conditions in Palestine, the outcome of thirteen years uninterrupted work at the Hebrew University, Jerusalem, is opportune. Part of the book is devoted to a description of soil formation within the framework of the Mediterranean type of weathering. The intense summer insolation destroys most of the soil organic matter and causes a predominantly upward movement of water containing silicic acid, ferric oxide and alumina. It is maintained that the colloidal silicic acid exerts a peptizing effect on the latter, and this accounts for their translocation in the presence of calcium during the formation of *terra rossa* on limestone. *Terra rossa* profiles are described, and theories of their formation with reference to rock weathering under different climatic conditions are discussed.

In dealing with the agricultural utilization of the soils it is emphasized that, since moisture is the main factor limiting crop production, irrigation is essential, and its success depends on the choice of water in which the concentration of salts is low enough to avoid injury to crops.

One of the most striking examples of the recent intensification of agriculture in Palestine is afforded by the citrus industry, the growth of which has revolutionized the whole of the country's agriculture. This progress is mainly due to the Zionist colonization, of which an account is given in the final chapter.

A. J. L. L.

Diseases of Bulbs

By W. C. Moore. (Ministry of Agriculture and Fisheries: Bulletin No. 117.) Pp. vi + 176 + 20 plates. (London: H.M. Stationery Office, 1939.) 4s. net.

THE need for this book was great. Advisory mycologists, teachers of horticulture, and gardeners had to search for any knowledge about the diseases of bulbs among scattered journals in several languages. The almost dramatic expansion