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BOOK REVIEW

RUSSELL, J. S., GREACEN, E. L. (ed.): SOIL FACTORS IN CROP PRODUCTION IN A SEMI-ARID ENVIRONMENT. — University of Queensland Press in association with the Australian Society of Soil Science Incorporated. 327 pp., £ 17.95, US \$ 35.—.

Sixteen per cent of the world's land surface can be classified as semi-arid and some 280 million people living in this environment depend at least partly on the crop production of this area. The solution of the problem concerning the best composition and highest yield of crops must be found as soon as possible. This book gathered a large amount of information about agriculture in semi-arid regions from Australia, where cultivation of crop plants in environment with limited water resources and in soil of low fertility are practised for more than 120 years. It presents current concepts and knowledge of this problem and point out areas for future work to improve there the management of soils.

The book is divided into four parts. The first part, — "Introduction" — written by J. S. Russell, one of the editors, acquaints the readers with the current state of knowledge and aim of the book. The second part consisting of six chapters is concerned with morphological, mineralogical, physical and chemical properties of the Australian soils and their air-water-heat relationships. Three chapters of the third part of the book discuss the first-order interactions between soils and climate and between soils and plants. The possibilities of analysing, simulating and modelling are suggested to facilitate the understanding of the mechanisms and processes of these systems. The fourth part consists of four chapters dealing with the interactions of second order *i.e.* between soils, climate, plants and man. This shows the valuable practice of crop sequences, cultivation and fertilization, which man can use in growing plants in soils in semi-arid conditions, and examines their effect on ecosystem stability in permanent crops or pasture.

Authors and editors tried to add to the understanding of the climate-soil-plant-man intert action in areas with limited water resources, where delicate and fragile balance maintained in nature emphasizes the need of careful soil management.

This book contains much valuable, and frequently difficult to find, information for forest biologists, agronomists and ecologists. Although the publication is devoted to semi-arid regions it brings a number of remarkable findings and results that should be taken into consideration also in other world areas.

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