By Duane Isely (Illustrated by Frances Penske).  
Iowa State College Press, Ames, Iowa. 400 pp. $4.95.

By expanding all sections and adding seven new chapters, the author has made the new edition of this popular reference book twice as large as the 1958 edition. The 160 full-page illustrations to emphasize important identification criteria of weed species is an especially noteworthy feature.

The book is designed specifically for use by those without formal botanical background and is doubly convenient for all users because it includes principles of both identification and control in one volume. It covers the importance, behavior, and identity of all common weeds, methods for determining unknown weeds, basic principles of weed control, and recent advances in herbicides for weed control.


Part II: Classification of Weeds by Family Characteristics contains an outline of common descriptive terms and explanations of scientific names.

Part III: Identification of Weeds from Flowers and Leaves is a series of five keys, four based on flower color and one providing for woody weeds.

Part IV: Poisonous Weeds discusses the significance of weeds as poisonous plants, especially as limiting factors in stock production.

Part V: Weed Control includes (1) the biology of weeds, (2) methods of control, (3) control by crop kinds, and (4) problems relating to specific weeds.

The versatility of this book recommends it to all who are concerned with this important area of agronomy and farming.


This is a good English summary of nearly 150 selected references of which some 65 are by W. S. Chepil, A. W. Zingg, and N. P. Woodruff and coworkers, concerning soil erosion by wind. About 20 titles among the references are in French, 6 in German, and one in Russian. Forty-five excellent photographs illustrate the text which has the following chapter headings: I. Occurrence of soil erosion by wind. II. The process of soil erosion by wind. III. Measures to control soil erosion by wind. IV. Soil erosion by wind in lesser developed countries. V. Legislation and collective action to control wind erosion. VI. Summary.

"The basic control (of soil erosion by wind) should be through wise use of vegetation and crop residue management practices." Prevention of over-grazing, and production of adequate forage for feeding live-stock during dry seasons are just two of a number of recommended practices. Tillage methods and machinery are described and illustrated, and evaluations given. The planner of foreign aid is warned against the temptation to hastily transfer tillage practices from temperate regions of North America to semiarid and subhumid regions of Africa and Asia. "Supplying added power (as by tractors) should be used not to change tillage practices, but to permit more timely tillage."

This useful bulletin is packed with specific information and suggestions, resulting from scientific experiments in the laboratory and in the field, and from experience of farmers and agricultural agencies of many countries. Ten recommendations for control of wind erosion on cultivated lands are stated in general terms for consideration by agricultural workers all over the world.—FRANCIS D. HOLE, Soil Survey Division, University of Wisconsin.


This book was prepared originally by the CSIRO in Australia for the benefit of delegates to an agricultural conference held there in August 1949. The purpose at that time was to provide delegates with some understanding of the history and present stage of development of the agriculture of Australia and its environmental background. The present third edition was prepared under the general supervision of Professor G. W. Leeper to meet a continuing demand for this informative volume.

The book contains chapters on the physical geography, climate, soils, and natural vegetation of Australia as well as chapters on the development of agriculture, water and irrigation, pastures, field crops, and animal husbandry. There are many enlightening maps, figures, and photographs. The book represents a happy compromise between an easily readable account of the Australian environment and a reference volume with many useful statistics on climate, soils, vegetation, and agricultural activities. For the reader who wishes to inform himself further, some selected references are appended to each chapter. A subject index would have increased the usefulness of the book as a reference source. This volume is highly recommended for those that are about to visit Australia or for agricultural scientists that would gain a better understanding of reports on Australian research if they were more familiar with the background and environment of the work.—C. H. M. VAN BAVER, U.S. Water Conservation Laboratory, Tempe, Ariz.

WURZELATLAS MITTELEUROPAISCHER ACKERUN- 
KRAEUTER UND KULTURPFLANZEN. By Lore Kutschera. 
Root drawings by Erwin Lichtenegger. D.L.G. Verlags G.m.b.H., 

It seems that root morphology is generally a neglected field, probably because it requires much hard physical labor and painstaking accuracy to study the shape and the development of roots. We can be grateful, therefore, to Lore Kutschera and her associate, Erwin Lichtenegger, for having prepared the "Root Atlas." Meticulous drawings shows the roots of crop plants and weeds, representing many botanical families. The inherent characteristics of the roots as well as the effect of the soil on their growth are shown and described. A discussion of origin, distribution, plant sociology, and significance to agriculture is included for each of the plants.

The first 100 pages of the Atlas are devoted to a general consideration of morphology, physiology, and ecology of roots—HELMUT KOHNKE, Purdue University, Lafayette, Ind.