DYNAMICS OF VEGETATION


COMPOSED of selected writings on dynamic ecology by the late Frederic E. Clements, this book is a real tribute to his creative genius in the field of plant ecology. Some of his most important essays, which are for the most part out-of-print at the present time, are again made available to agronomists, range men, foresters, conservationists, teachers, and students.

Dr. Clements was a pioneer in scientific studies dealing with the growth, development, and occurrence of plants as related to the environmental conditions. He was one of the first to measure these factors and to interpret the effects, not only on the individual plant species, but in terms of entire plant communities as well.

Most readers, including plant specialists who are not actively engaged in ecological studies, will probably acquire a vocabulary of new terminology as they read this volume. Fortunately, the editors, B. W. Allred and Edith S. Clements, who compiled the material and saw it through the press, have included an 11-page glossary at the end of the book that is of great help to the average reader.

The book is divided into eight substantial chapters, each representing a published work of Dr. Clements. The first deals with plant succession and human problems and covers the nature of plant succession and its application to human needs. The author points out the need for working with the forces of nature and declares that nature’s cooperation is essential to the success of the many present endeavors to undo man’s destructiveness.

The nature of plant competition and experiments dealing with it are discussed in another chapter. The third, devoted to the evaluation of plants as indicators, is perhaps the most significant and useful portion of the whole volume. The relation between the existing flora and the land classification of an area is discussed in detail. The author describes how plants serve as guides to farming practices, cropping, forestry, and grazing, and also as indicators of man’s mismanagement of the land in the form of overgrazing, burning, improper drainage and soil wastage.

The nature and structure of the climax and the units which compose plant communities are treated in another chapter. It is a fitting introduction for the chapter entitled “The Relict Method in Dynamic Ecology”, which follows. The material presented therein will undoubtedly be of great interest to range managers, wildlife specialists, and other conservationists whose work is related to the interpretation of changes in our native landscape, as well as to those connected with the management and administration of land areas.

The last three chapters are consigned to the use of ecology in conservation, climatic cycles in the Great Plains area, and ecology in the public service.

The chapter on climatic cycles, a brilliant essay on weather analysis and land use in the Great Plains region, should be of great value to agricultural scientists working in that “calamity area”, as it is still mistakenly called by some. The author declares that the Great Plains is an area of great potentialities, if properly used. “The most serious defect in the past has been... the common failure to realize that the price of continued use is conservation and that conservation can be secured only by means of the most thorough cooperation.”—L. G. Monthey.

SOIL EROSION: ITS PREVENTION AND CONTROL


In the preface to this volume of 184 pages it is stated that “The Government of Madras... decided that a text book on soil erosion should be prepared for the use of departmental officers and for teaching the subject in the Agricultural and Forest Colleges. They appointed a committee consisting of the Heads of the Departments of Irrigation, Agriculture, Forest and Public Health to form an Editorial Committee presided over by a Chief Editor to bring out such a text-book.”

The book consists of 18 chapters dealing with the causes, results and control of erosion, with principal emphasis on conditions in Madras Province. Most attention is paid to the following subjects: contour bunding, control and elimination of gullies, control of floods and of stream and river bank erosion, and control of wind erosion. One hundred and fifty-eight illustrations, including graphs, sketches, and photographs are presented.

This volume will undoubtedly serve well as a compilation of available data, experience, and specifications to guide erosion control operations in Madras and other provinces. Unfortunately, certain errors in the citation of data must await correction in a future edition.—R. J. Muckenhirn