Book Reviews


The authors have clearly indicated the appropriate area of use of this text by including in the title "... with special reference to the biological sciences." This book will appeal to the same audience as that of the very popular textbook Statistical Methods, 5th edition, by G. W. Snedecor. While the same general approach to the treatment of the subject is taken by Steel and Torrie as was used by Snedecor, Principles and Procedures of Statistics will probably be a more popular text in the teaching of applied statistics.

Topics are covered that are necessary in teaching of applied statistics for advanced undergraduate and graduate students in agriculture and biology. The authors have chosen the content to first present the student with a considerable number of statistical techniques applicable and useful in terms of research. Secondly, disciplined thinking with respect to the conduct of experiments is stressed. And finally, the student is taught to make critical analysis of experimental data." The experiences of Steel and Torrie in the teaching of statistics to students majoring in agriculture and biology have resulted in their understanding the problems in presenting the subject to students having weak mathematical training. Their attempts to resolve these difficulties with this text will be appreciated.

Approximately one-half of the book is devoted to the subject of analysis of variance. The simple "one-way classification" is presented as early as possible which, in the reviewer's opinion, is most desirable in teaching the subject. A chapter on "multitype classifications" in the analysis of variance follows and gives the treatment of randomized block and Latin square designs. Regression and correlation are then treated in two chapters followed by three further chapters on analysis of variance, giving the more complex analyses. Multiple and partial regression and correlation, covariance analysis, nonlinear regression and chi-square follow in this order. Special topics in binomial and poisson distributions, non-parametric statistics and sampling from finite populations are given in the last chapters.

Some who use the text in teaching will object to the omission of mathematical proofs and derivations, particularly in the early chapters. Here, such topics as the linear model, confidence and fiducial inference, probability, parameters and statistics and tests of significance are presented and the professor may need to supply additional theory in the teaching.

The authors have, in general, achieved their objectives with this textbook. I do not consider their aim on "disciplined thinking" as well done here as, for example, in Snedecor's Statistical Methods. This is not surprising in view of the tremendous experience and insight of Dr. Snedecor. The usual mathematical errors are contained in the first printing. I understand that these and inaccurate statements on certain uses of the L.S.D. have been corrected in the second printing which is already available and should be specified in purchasing the book. This text is definitely recommended for graduate students and research workers in biological sciences and is appropriate for teaching or reference purposes.—H. F. Robinson, Department of Genetics, N. C. State College, Raleigh.


Simplicity and clarity of expression accompanied by well-chosen examples and a variety of clear photographs, drawings, and diagrams characterize Professor Münzing's new book. The author stated in his preface that he had endeavored to make the book useful "for any person interested... without any special previous knowledge of biology". This ambitious objective has been accomplished remarkably well. The text integrates the various aspects of genetics and cytogentic in a particularly useful and stimulating manner. It should be useful and interesting also to laymen and hobbyistic plant breeders wishing an authoritative and readable discussion of the biological processes involved in the discipline of genetics.

Augmenting those topics usually discussed in genetics texts are chapters dealing with spontaneous and induced mutations and their utilization, physiological and biochemical genetics, and genetic investigations of bacteria, bacteriophages and other virus types, heredity determined by other cell constituents than chromosomes, and evolution. The reader is led into the application of genetics in the concluding chapters that deal with plant breeding, animal breeding, and human genetics. The glossary is extensive and terms are clearly defined. Although few literature citations are given in the text, an extensive list of books and periodicals relating to genetics and allied fields is included.—EtLa R. Nielsen, University of Wisconsin.


It is well-known that edaphic factors influence the nature of vegetation growing on a particular site; it is also recognized that vegetation plays an important role upon the formation and nature of soil. The First Symposium of the Societe Botanique de France, held in Paris in June 1959, met to consider these inter-relationships and bring about an exchange of views and ideas between agronomists, pedologists and botanists. This book contains the papers of thirty-six contributors to the Symposium, as well as the comments offered by those attending.

The papers have been grouped under the following headings: influence of vegetation on soil formation processes, influence of vegetation on soil conservation, influence of vegetation and soil organic matter on fungal and bacterial flora, influence of soil on plant associations, influence of toxic salts on vegetation, and influence of soil on volunteer and cultivated plants. The majority of papers draw upon semi-tropical and tropical regions for the examples and situations discussed, although a few deal with situations encountered in metropolitan France.

This book will be of interest to the advanced student of plant-soil relationships; however, the major emphasis of the contributors has been placed on those relationships existing between natural vegetation and warm-climate soils, limiting its value to the student interested in vegetation-soil relationships in temperate and other climates.—Henry A. Fribourg, University of Tennessee.