Statistical Techniques for Studying Genotype-Environment Interactions. PRABHAKARAN, V. T. and JAIN, J. P. *1994. 221pp. South Asian Publishers Pvt. Ltd., New Delhi; Rs. 250, hardbound.*

Assessment of genotype-by-environment interaction is fundamental to any breeding programme and particularly so in perennials like most plantation crops which are highly heterogeneous and where each individual represents a genotype as in coconut. A number of concepts such as adaptability and stability of performance have emerged to explain this and a multitude of statistical approaches suggested. Consequent to this the topic has become a major theme of both theoretical and applied research. The present book "Statistical Techniques for Studying Geno-type-Environment Interactions" summarises the results that are otherwise scattered in the literature. Different approaches for the study of GE interaction include the variance components, biometrical genetics, genetic correlations and regression approaches. Among these, the joint regression approach is widely followed by plant breeders and the authors are therefore, justified in providing a detailed account of this topic.

The book comprises six chapters dealing with 'Variance components and biometric approaches to study of GE interactions', 'Linear regression models, 'Regression analysis of nonlinear interactions', 'Measurement of stability and adaptability, and finally, 'Analysis of Incomplete G × E data and stability for several traits'. The useful feature of the book is the systematic presentation in an easy to understand manner. In his brief foreword, Dr. M.S. Swaminathan, F.R.S., says. ''The basic principle underlining the Green Revolution is the cultivation of crop varieties which can respond well to good soil fertility and water management. Dr. V.T. Prabhakaran and Dr. J.P. Jain have brought together extremely useful statistical concepts and methods of value in the study of the relative roles of the environment and genotype in the determination of the phenotypes".

While considering the yielding behaviour of plantation crops, the nonlinear interactions seem to be significant. The techniques for the analysis of non-linear interactions (described in Chapter 4) may therefore, find much practical value in breeding programmes of plantation crops. The other topics covered in this book include different measures of stability and adaptability of genotypes, analysis of incomplete experimental data and multitrait analysis.

The numerical examples provided in each section are useful for the easy understading of the concepts and techniques. At the end of each chapter, a section of "complements and problems" are given which the students and teachers will find to be very useful. These features qualify this book as an excellent text for university students offering courses on quantitative genetics and plant breeding techniques. A collection of over 250 references on the subject is compiled in the bibliography which will definitely be of use to the research workers. It would have been more useful if the authors had also discussed the 'research gap/ limitations' of the techniques in a more detailed manner. The book also contains an author index and subject index. *(**R. D. IYER** and **K. MURALIDHARAN**, Central Plantation Crops Research Institute, Kasaragod-671 124, Kerala).*