

BOOK REVIEW

Statistical Methods for Agricultural and Biological Sciences

S.J. Amdekar

Former Professor of Statistics, G.B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand

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by

Prajneshu

ICAR-Indian Agricultural Statistics Research Institute, New Delhi

It is by now well recognized that the knowledge of the subject of Statistics is vital in Soft sciences, such as Agriculture and Biology. In fact, there is an important saying “Agriculture without Statistics has no roots; Statistics without Agriculture has no fruits”. Accordingly, the book under review, dealing with basic statistical concepts and their applications, is a welcome step.

The book essentially comprises eight chapters, nine Appendices, and seventy Multiple choice questions. Chapter 1 is the introductory chapter and discusses the basic concepts of Frequency distribution and Numerical description of data. Chapter 2 deals with the description of three most important classical distributions in Statistics, viz. Binomial, Poisson, and Normal distributions. In Chapter 3, apart from other things, three sampling distributions, viz. Chi-square, t and F distributions are covered. Testing of hypothesis forms the subject matter of next chapter. Here, various applications of chi square and t-tests are described. Chapter 5 covers ‘Analysis of Variance’ technique; here emphasis is given on One-way and Two-way classifications as well as Transformations of data. In chapter 6, Correlation and Regression analyses are discussed and basics of simple correlation and simple regression analyses are explained along with Multiple regression, Partial correlation, and Polynomial regression. Chapter 7 deals with three important basic designs, viz. Completely randomized design, Randomized block design, and Latin square designs. The last chapter covers Factorial analysis; here analyses of 2², p×q, p×q×s experiments along with Split plot design and Response curve technique are described. These chapters are followed by 9 appendices, viz. Normal distribution function, Values of chi square variable, Values of t-variable, Values of F-variable for probability levels 0.05 and 0.025, Random numbers, Values of Tukey statistic, Values of Duncan statistic, and Coefficients of orthogonal polynomial. Thereafter, 70 multiple choice questions dealing with various statistical methodologies are given.

A perusal of the above contents of the book under review clearly reflects that most of the statistical techniques generally used by Agricultural and Biological scientists are included in the book. The overall presentation of the book is quite impressive. Although an Errata containing seven corrections has been pasted in the beginning of the book, it is disheartening to note that several other typographical and other errors are still remaining. For example, Page 4.6, Lines (-3) and (-2) and Page 4.8, Line (-11): ‘σ’ instead of ‘blank square’; Page 4.12, Line (-5): As claimed, the test described is not ‘Fisher t test’; Page 4.12, Line 9 : $s_1^2 > s_2^2$ is missing on R.H.S.; Page 4.16, Example 4.5: There is a need to check the computations as the condition $s_1^2 > s_2^2$ is not satisfied. Further, some General comments are as follows:

1. There is ‘Gender’ bias as everywhere ‘he’ is used.
2. ‘Rupee’ should be written as ‘₹’.
3. The number of dots to write ‘and so on’ should only be three.
4. Just like ‘Problems’ and ‘Objective-type’ questions chapter-wise, Multiple choice questions should also be chapter-wise.
5. In Appendices A2,A3,A4, and A5, ‘variable’ should be replaced by ‘distribution’.
6. When null hypothesis is not rejected, the word ‘accepted’ has been used, which is not desirable.

It is hoped that the author would edit the entire book carefully in the next edition in the light of above comments. But, despite all the above shortcomings, it is a well written book and would be an asset to any library. Its low price should also attract the students and researchers to have their own copies of the book on their shelves.