Irfan Ali Khan, Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.007

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Agricultural & Horticultural Sciences
Radisson Blu Plaza Hotel, Hyderabad, India February 03-05, 2014

Biostatistical methods and their application in analysis and interpretation of experimental data

Irfan Ali Khan
Nawab Shah Alam Khan Centre for Post Graduate Studies and Research, India

It may be too expensive or too time consuming to attempt either a complete or a nearly complete coverage in a biostatistical study. Furthermore, to arrive at valid conclusions, it may not be necessary to enumerate all or nearly all of a population. We may study a sample drawn from the larger population and if that sample is adequately representative of the population, we should be able to arrive at valid conclusions". - P.E. Croxton and D.J. Cowden

The development of biological theories is closely associated with biostatistical methods. Therefore, a good understanding of biostatistics is essential for the students of biological sciences, as the methods of biostatistics are indispensable tools for the design and analysis of data and in the interpretation of experimental results for dependable conclusions. A preliminary acquaintance will help not only in applying biostatistical methods but also in a better appreciation of their potential value. This invited talk is primarily designed to outline the logical basis of the biostatistical approach to experimental problems and also to give the main features of those biostatistical methods commonly used in agricultural, biological and medical experimentations.

The knowledge of biostatistics is becoming an important ally to the understanding and interpretation of the facts and findings of the agricultural, biological and medical research. In this invited talk, the approach is widened to highlight the principles of biostatistical methods to students and researchers. The governing principle behind this approach is to ensure that they appreciate the utility and usefulness of the subject.

Most of the advancement in knowledge has taken place because of experiments conducted with the help of biostatistical methods. For example, in diagnosing the correct disease, the doctor has to rely heavily on actual data like temperature of the body, pulse rate, and blood pressure. Similarly, in judging the efficacy of a particular drug for curing a certain disease, experiments have to be conducted and the success or failure would depend upon the number of people who are cured after using the drug.

I would like to highlight the basics of biostatistical methods and their application in various aspects of analysis and interpretation of scientific data. This lecture is designed for students and staffs who need to learn/review the basics of biostastistics. Our discussion will depend on the following fundamental principles:

- To understand the measures of central tendency and dispersion.
- To understand a clinical trial in an experiment that seeks to determine the effectiveness of a new drug or treatment which involves a comparison of two or more comparable group of patients (control and treatment).
- To understand an average and then measures of spread about an average, besides consistency of two or more samples.
- To understand the appropriate application of basic biostatistical tests and their computation.
- To understand the basic principle of level of significance.

Biography

Irfan Ali Khan obtained his M.Sc. from Aligarh Muslim University and Ph.D. in Botany from Osmania University, Hyderabad, specializing in 'Genetics and Plant Breeding'. Dr. Khan is the Former Director of Nawab Shah Alam Khan Centre for Post Graduate Studies and Research (Affiliated to Osmania University), Anwarul Uloom College Campus, Mallepally, Hyderabad. Presently he is the Managing Director of Ukaaz Publications, Hyderabad. He has published 163 research papers in the reputed National and International Journals and is now on the panel of 'Experts on Mung bean' for all countries of the South-East Asia and the Middle East. Dr. Khan has been the editor of "Frontiers in Plant Science", has edited seventy four reference books and has co-authored three text books with his wife, Dr. Atiya Khanum. He is a Fellow of the Indian Society of Genetics (F.I.S.G.). Besides this, he is the Editor-in-Chief of "Annals of Phytomedicine" - An International Journal.

ukaaz@yahoo.com