Practical Statistics and Experimental Design for Plant and Crop Science

Description:
Practical Statistics and Experimental Design for Plant and Crop Science provides an introduction to the principles of plant and crop experimentation. Avoiding mathematical jargon, this text explains how to plan and design an experiment, analyse results, interpret computer output and present findings. Using specific crop and plant case studies this user-friendly guide presents:
- The reasoning behind each statistical method before giving practical examples
- Step-by-step calculations with examples linked to three computer packages (MINITAB, GENSTAT and SAS)
- Exercises at the end of many chapters
- Advice on presenting results and report writing
Written by experienced lecturers, this text will be invaluable to undergraduate and postgraduate students studying plant sciences, including plant and crop physiology, biotechnology, plant pathology and agronomy, plus ecology and environmental science students and those wanting a refresher or reference book in statistics.

Contents:
Preface.

Basic Principles of Experimentation.

Basic Statistical Calculations.

Basic Data Summary.

The Normal Distribution, the t-Distribution and Confidence Intervals.

Introduction to Hypothesis Testing.

Comparison of Two Independent Sample Means.

Linear Regression and Correlation.

Curve Fitting.

The Completely Randomised Design.

The Randomised Block Design.

The Latin Square Design.

Factorial Experiments.

Comparison of Treatment Means.

Checking the Assumptions and Transformation of Data.

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Appendix 2: Percentage Points of the Normal Distribution.

Appendix 3: Percentage Points of the t-Distribution.

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