1. Record Nr. UNINA9910139961903321

Autore	Bower John A., MSc.
Titolo	Statistical methods for food science : introductory procedures for the food practitioner / / by John A. Bower
Pubbl/distr/stampa	Oxford, UK ; ; Ames, Iowa, : Blackwell Pub., 2009
ISBN	1-282-38006-0 9786612380068 1-4443-2094-7 1-4443-2095-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (321 p.)
Disciplina	664/.0072
Soggetti	Food - Research - Statistical methods Nutrition - Research - Statistical methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Statistical Methods for Food Science; Contents; Preface; Acknowledgements; Part I Introduction and basics; Chapter 1 Basics and terminology; 1.1 Introduction; 1.2 What the book will cover; 1.3 The importance of statistics; 1.4 Applications of statistical procedures in food science; 1.5 Focus and terminology; References; Software sources and links; Chapter 2 The nature of data and their collection; 2.1 Introduction; 2.2 The nature of data and their collection; 2.3 Collection of data and sampling; 2.4 Populations; References; Chapter 3 Descriptive statistics; 3.1 Introduction 3.2 Tabular and graphical displays3.3 Descriptive statistic measures; 3.4 Measurement uncertainty; 3.5 Determination of population nature and variance homogeneity; References; Chapter 4 Analysis of differences - significance testing; 4.1 Introduction; 4.2 Significance (hypothesis) testing; 4.3 Assumptions of significance tests; 4.4 Stages in a significance test; 4.5 Selection of significance tests; 4.6 Parametric or non-parametric tests; References; Chapter 5 Types of significance test; 5.1 Introduction; 5.2 General points; 5.3 Significance tests for nominal data (non-parametric) 5.4 Significance tests for ordinal data (non-parametric)5.5 Significance

tests for interval and ratio data (parametric); References; Chapter 6 Association, correlation and regression; 6.1 Introduction; 6.2 Association; 6.3 Correlation; 6.4 Regression; References; Chapter 7 Experimental design; 7.1 Introduction; 7.2 Terminology and general procedure; 7.3 Sources of experimental error and its reduction; 7.4 Types of design; 7.5 Analysis methods and issues; 7.6 Applicability of designs; References; Part II Applications; Chapter 8 Sensory and consumer data; 8.1 Introduction
8.2 The quality and nature of sensory and consumer data8.3 Experimental design issues; 8.4 Consumer data (sensory and survey); 8.5 Trained panel sensory data; 8.6 Analysis of relationships; References; Chapter 9 Instrumental data; 9.1 Introduction; 9.2 Quality and nature of instrumental data; 9.3 Sampling and replication; 9.4 Experimental design issues; 9.5 Statistical analysis of instrumental data; 9.6 Chemical analysis applications; 9.7 Analysis of relationships; References; Chapter 10 Food product formulation; 10.1 Introduction; 10.2 Design application in food product development
10.3 Single ingredient effects10.4 Two or more ingredients; 10.5 Screening of many ingredients; 10.6 Formulation by constraints; References; Chapter 11 Statistical quality control; 11.1 Introduction; 11.2 Types of statistical quality control; 11.3 Sampling procedures; 11.4 Control charts; 11.5 Acceptance sampling; References; Chapter 12 Multivariate applications; 12.1 Introduction; 12.2 Multivariate methods and their characteristics; 12.3 Multivariate modes; 12.4 Relationship of consumer preference with sensory measures; References; Index

Sommario/riassunto

The recording and analysis of food data are becoming increasingly sophisticated. Consequently, the food scientist in industry or at study faces the task of using and understanding statistical methods. Statistics is often viewed as a difficult subject and is often avoided because of its complexity and a lack of specific application to the requirements of food science. This situation is changing - there is now much material on multivariate applications for the more advanced reader, but a case exists for a univariate approach aimed at the non-statistician. This book provides a source