



GenStat – 9th Edition Overview

Roger Payne

VSN International, Hemel Hempstead, Herts HP1 1ES

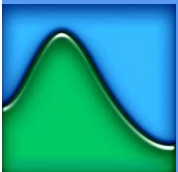
email: Roger.Payne@vsni.co.uk

Victor Harbour 6th December 2006

VSN news

- goodbye to
 - Brian Ford, Peter Thomas
 - Vicki Blythe, Alan Draper
- but hello to
 - Jim Cooper, Rob Meyer, Chris Rawlings
 - Allen Green, Amanda Hessey, Liz Jupe, Rosalind Payne
 - Steve Langton
 - and ...?
- and *hello Australia!* from
 - Stewart Andrews, Carey Biggs
 - Simon Harding, Darren Murray, Roger Payne
 - Sue Welham, David Baird
 - John Nelder, Robin Thompson

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GenStat for Windows 9th Ed

GenStat[®]

The screenshot displays the GenStat software interface with several windows open:

- Output Window:** Shows the following commands:


```
38 "Two-way design in randomized blocks"
39 DELETE [REDEFINE=yes] _ibalance
40 A2WAY [PRINT=aovtable,means; TREATMENTS=N,S; BLOCKS=block; FA
41 PSE=diff; PLOT=*; EXIT=_ibalance] yield; SAVE=_a2save
```
- Analysis of variance:**

Variate: yield

Source of variation	d.f.	s.s.	m.s.	v.r.
block stratum	2	0.30850	0.15425	3.44
block.*Units* stratum				
N	2	4.59223	2.29611	51.22
S	3	0.97720	0.32573	7.27
N.S	6	0.64851	0.10808	2.41
Residual	22	0.98625	0.04483	
Total				
- Tables of means:**

Variate: yield

Grand mean 1.104

	N	S
	0.601	0.829
- Spreadsheet [Canola.gsh]:**

Row	block	N	S	yield
1	1	0	0	0.7496
2	1	180	20	1.5961
3	1	230	0	0.7995
- One- and two-way Analysis of Variance:**

Available data: yield

Design: One-way Two-way

Y-variate: yield

Treatment 1: N

Treatment 2: S

Blocks: block

Include interaction

Buttons: Run, Options..., Cancel, Defaults
- GenStat Graphics Viewer - Means for S at d...:**

100%

Means for S at different levels of N

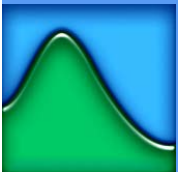
Legend: N=0, N=180, N=230

9th Edition – new features

- updated look-and-feel
 - docked data view and window navigator
 - multi-paged spreadsheet workbooks – *David & Darren*
 - additional i/o file formats
 - "typesetting" commands can be included in textual strings to define Greek letters and mathematical symbols to appear in output and graphs
 - improved menus to access example programs and procedure source
 - ability to run R from GenStat

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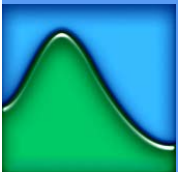


9th Edition – new menus

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- graphics
 - species abundance plots – rank/abundance, ABC, k-dominance
 - Lorenz curves
 - transformed axes
- ecological data
 - diversity indices (with jackknife confidence intervals)
 - species abundance models
- permutation and exact tests
 - for t-tests, anova, regression and generalized linear models
- split-line regression
- predictions from hierarchical generalized models
- nonparametrics
 - Spearman's and Kendall's rank correlation coefficients
 - Cochran's Q test
- survey analysis
 - create and modify survey weights
 - calibration weighting
 - general survey analysis

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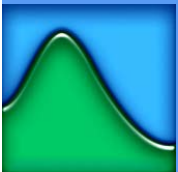


9th Edition – new commands

- analysis of clustering of events in space and time
- analysis of multitiered (multi-phased) experiments
- Bayesian computing by the Differential Evolution Markov Chain algorithm
- design, exploration, analysis and visualization of microarray data (two-colour or Affymetrix slides)
- double hierarchical generalized linear models
 - and reimplementations of the underlying algorithms – *JAN & RWP*
- forming all partitions of a set of objects
- linear functional relationship models
- natural cubic and thin-plate splines
- niche models, rarefaction, ANOSIM
- screening tests for unbalanced designs
- (and others to support the new menus)

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GenStat[®]



Further development

GenStat®

- GenStat 9th Edition
 - 64 bit version
 - GenStat for Linux – *Simon*
 - links to GenII
 - MCMC (WinBugs) – *Darren*
- GenStat 10th Edition
 - server additions – analysis of trends, enhanced text handling
 - REML extensions – *Sue*
 - custom menus – *Darren*
 - your requests ... ?
- other activities
 - ASReml2 – and beyond (NSW DTI, RRes, QDPI)
 - ADVISE (DTI funded project with NAG & University of Leeds)

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