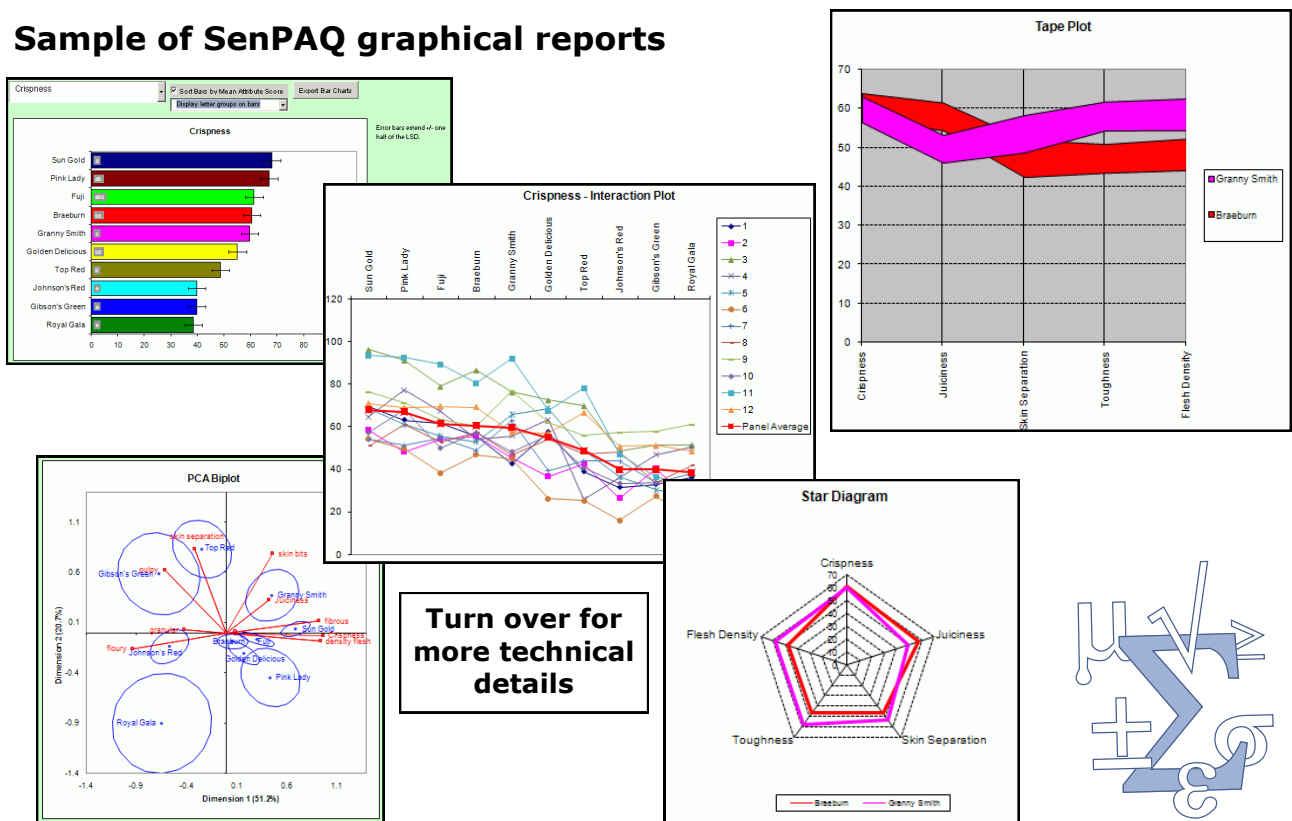# SenPAQ

Easy to Use Software for Analysing Sensory Profiling Data

SENPAQ is easy to use software that analyses sensory profiling data from Microsoft Excel and delivers the results as an Excel Spreadsheet (with the option to export charts to Microsoft Power-Point).
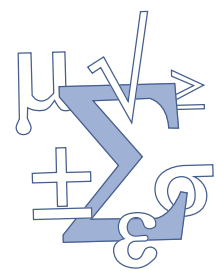
Features

- Customised for analysing sensory profile data
- Data input as Microsoft Excel spreadsheet with simple setup
- All the key univariate analyses for sensory data
- Principal component maps with confidence ellipses
- Outputs analysis to Microsoft Excel
- Outputs charts to Microsoft PowerPoint
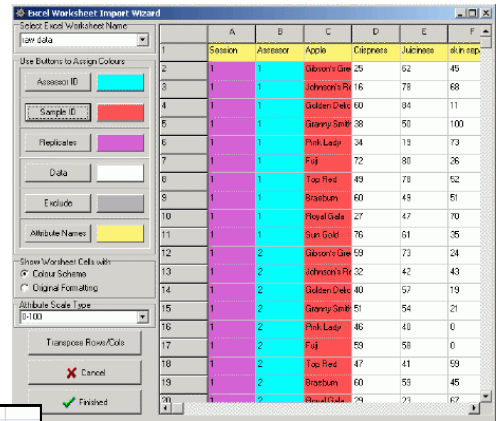- Handles missing values

Sample of SenPAQ graphical reports

Turn over for more technical details

Data Input

Data input from Microsoft Excel spreadsheet with simple column role identification

- Easy to exclude data rows or columns
- Deals with replicated and un-replicated data
- Customise to your scale type (0-15, 0-100, etc)

Analysis

Crispness

	Braeburn	Fuji	Gibson's Green	Golden Delicious	Granny Smith	Johnson's Red	Pink Lady	Royal Gala	Sun Gold	Top Red			
Braeburn			***	ns	ns	***	ns	***	.	***	Sun Gold	68.00	a
Fuji	0.7977		***	ns	ns	***	ns	***	ns	***	Pink Lady	67.03	ab
Gibson's Green	<.0001	<.0001		***	***	ns	***	ns	***	**	Fuji	61.39	abc
Golden Delicious	0.1091	0.0639	<.0001		ns	***	ns	***	***	**	Braeburn	60.53	bc
Granny Smith	0.8041	0.6141	<.0001	0.1743		***	.	***	.	**	Granny Smith	59.69	c
Johnson's Red	<.0001	<.0001	1.0000	<.0001	<.0001		***	ns	***	**	Golden Delicious	55.11	cd
Pink Lady	0.0552	0.0955	<.0001	0.0006	0.0309	<.0001		***	ns	**	Top Red	48.75	d
Royal Gala	<.0001	<.0001	0.7160	<.0001	<.0001	0.7160	<.0001		***	**	Gibson's Green	39.72	e
Sun Gold	0.0280	0.0512	<.0001	0.0002	0.0148	<.0001	0.7722	<.0001		***	Johnson's Red	39.72	e
Top Red	0.0007	0.0003	0.0083	0.0605	0.0015	0.0083	<.0001	0.0028	<.0001		Royal Gala	38.50	e

- Analysis of Variance by attribute (fixed or mixed model)
- LSD and Tukey comparisons of sample means, presented as ranked table of means, or all pair-wise p-values

- Summary table of means showing significant differences

	Braeburn	Fuji	Gibson's Green	Golden Delicious	Granny Smith	Johnson's Red	Pink Lady	Royal Gala	Sun Gold	Top Red
Crispness	60.5 bc	61.4 abc	39.7 e	55.1 cd	59.7 c	39.7 e	67.0 ab	38.5 e	68.0 a	48.8 d
Juiciness	57.9 ab	63.0 a	51.4 bc	58.1 ab	49.6 c	48.8 c	48.6 c	39.6 d	52.1 bc	52.1 bc
Skin Separation	47.1 bcd	43.4 cde	51.0 bc	40.9 de	53.4 ab	50.6 bc	37.4 e	41.5 cde	44.0 bcde	61.8 a
Toughness	47.1 b	45.8 bc	32.0 f	41.2 bcd	58.0 a	33.6 ef	58.0 a	36.4 def	62.4 a	39.6 cde
Flesh Density	48.1 b	47.7 b	29.0 e	43.7 bc	58.4	28.6 e	67.1 a	32.7 de	68.9 a	38.5 cd
Fibrous	6.6 cdef	9.8 abc	3.9 ef	8.7 bcde	14.1 a	2.8 f	9.4 abcd	4.4 def	12.6 ab	6.5 cdef
Granular	7.1 a	5.4 a	7.6 a	4.3 a	5.2 a	4.5 a	6.7 a	6.8 a	4.4 a	6.1 a
Floury	2.7 c	1.3 c	12.3 b	3.1 c	0.4 c	18.6 a	0.5 c	18.6 a	0.3 c	9.3 b
Pulpy	6.3 bc	6.1 bc	18.5 a	6.9 bc	4.8 c	7.0 bc	3.4 c	4.4 c	3.1 c	10.6 b
Fibrous Bits	10.5 bc	8.9 bcd	3.4 f	8.6 bcde	15.7 a	4.6 def	11.2 ab	4.1 ef	12.5 ab	6.0 cdef
Skin Bits	42.0 b	43.6 b	49.2 ab	43.3 b	54.7 a	43.1 b	47.7 ab	33.7 c	55.5 a	55.6 a

- Panel Performance Assessment

  Correlation analysis
  Partition of assessor by sample interaction
  Assessor repeatability & discrimination
  Chart of assessor by sample interaction

- Principal Component Biplot – with optional confidence ellipses for products

Summary Table of Assessor Performance (low good)	Assessor 1	Assessor 2	Assessor 3	Assessor 4	Assessor 5	Assessor 6	Assessor 7	Assessor 8	Assessor 9	Assessor 10	Assessor 11	Assessor 12
Non-Discrimination of Attributes	3	4	4	8	6	5	7	4	6	5	8	2
Non-Reproducibility of Attributes	2	1	4	2	7	1	0	1	3	0	6	0
Attributes causing Interaction	2	3	4	1	7	0	0	1	1	2	4	1
Total	7	8	12	11	20	6	7	6	10	7	18	3

  Zoom and rescaling options
  Removal of attributes to simplify plot

- Canonical variates analysis with graphical output

System Requirements

Widows environments: XP, Vista & Windows 7. Excel 2007 or later

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