

Off-Flavours and Positive Characteristics

Prospects and Risks during Description and Interpretation of Sensory Data



Raw Data → Defects

H 08	Fusty	Musty	Winey	Mud. Sed.	Metallic	Rancid	Other
Taster	none - intense						
G 14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 44	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 46	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G 47	0.0	0.0	0.0	1.9	0.0	0.0	0.0
G 56	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rel. Robust std. dev. (%)							
MW	0.00	0.00	0.00	0.16	0.00	0.00	0.00
Stabw.	0.00	0.00	0.00	0.53	0.00	0.00	0.00

Raw Data → Aroma Description

ne - ed	Apple - green	Apple - ripe	Banana - green	Banana - ripe	Citrus	Cassis	Melon	Candied fruit	Tomato - green	Tomato - ripe	Artichoke	Mushrooms	Herbs	Other
slightly (1) / noticeably (2) / intense (3)														
					1			2	1					
		1		1										
		1												
1		1												
		3												
		1												
													1	
00	#ZAHL!	1.00	#ZAHL!	1.00	1.00	#ZAHL!	2.00	1.00	#ZAHL!	#ZAHL!	#ZAHL!	#ZAHL!	1.00	#ZAHL!
00	#ZAHL!	0.00	#ZAHL!	0.00	0.00	#ZAHL!	0.00	0.00	#ZAHL!	#ZAHL!	#ZAHL!	#ZAHL!	0.00	#ZAHL!
00	#DIV/0!	1.40	#DIV/0!	1.00	1.00	#DIV/0!	2.00	1.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.00	#DIV/0!
00	#DIV/0!	0.80	#DIV/0!	0.00	0.00	#DIV/0!	0.00	0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	#DIV/0!

Raw Data → overall liking

Probennummer:

1. Wie gerne haben Sie das vorliegende Olivenöl?

Ich mag es ...
 sehr ungern
weder noch
sehr gern

2. Bemerkungen zum vorliegenden Olivenöl?

Evaluation of Raw Data

- Median / Mean
- Average
- Standard Deviation
- Analysis of variance (ANOVA) / Student t-Test
- Principal Component Analysis (PCA)
- Preference Mapping

Minimum

In case of Interest

Advanced

7

April 2nd., 2008 / Bona



7th International Olive Congress - Zurich 2008

Evaluation of Raw Data

- Median / Mean
 - mean value of all results concerning one attribute

$$= x_{(n+1)/2} \quad \text{für ungerades } n$$

$$= 1/2(x_{n/2} + x_{n/2+1}) \quad \text{für gerades } n$$

(x_i : Werte aus geordneter Urliste)

8

April 2nd., 2008 / Bona



7th International Olive Congress - Zurich 2008

Evaluation of Raw Data

- Average
 - sum of all results concerning one attribute, divided through amount of results

$$\bar{x} = \frac{x_1 + x_2 + \dots + x_n}{n} = \frac{1}{n} \sum_{i=1}^n x_i$$

Evaluation of Raw Data

- Standard Deviation
 - variation (statistical spread) of all results concerning one attribute

$$s = \sqrt{V(x)}$$

Evaluation of Raw Data

- Analysis of variance (ANOVA) / Student t-Test
 - Test for differences between means / averages of selected attributes
 - 2 products → Student t-test
 - > 2 products → ANOVA
 - univariat → one attribute is considered

one factor → subjective data (just product)

two factors → objektive data (product / panelist)

11

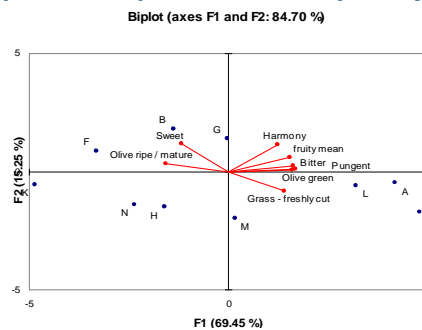
April 2nd., 2008 / Bona



7th International Olive Congress - Zurich 2008

Evaluation of Raw Data

- Principal Component Analysis (PCA)



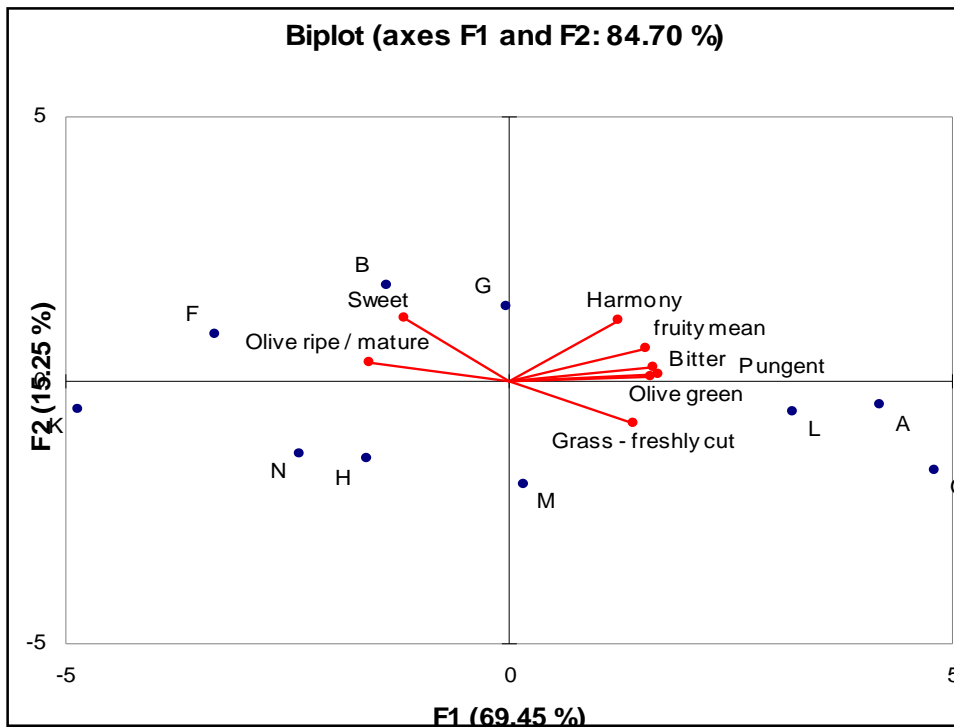
multivariat
 → several
 attributs are
 considered at
 the same time


12

April 2nd., 2008 / Bona



7th International Olive Congress - Zurich 2008



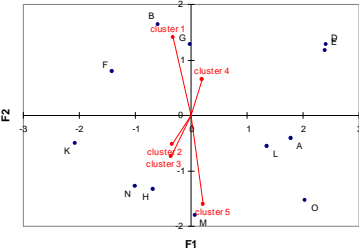



Life Sciences and
Facility Management
ILGI Institut für Lebensmittel-
und Getränkeinnovation

Evaluation of Raw Data

- Preference Mapping

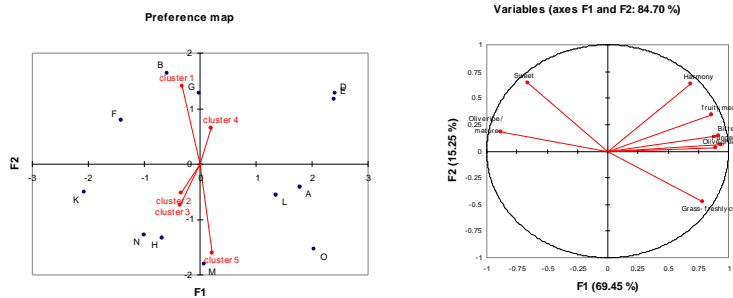
Preference map



14
April 2nd., 2008 / Bona

7th International Olive Congress - Zurich 2008

Evaluation of Raw Data

Preference Mapping



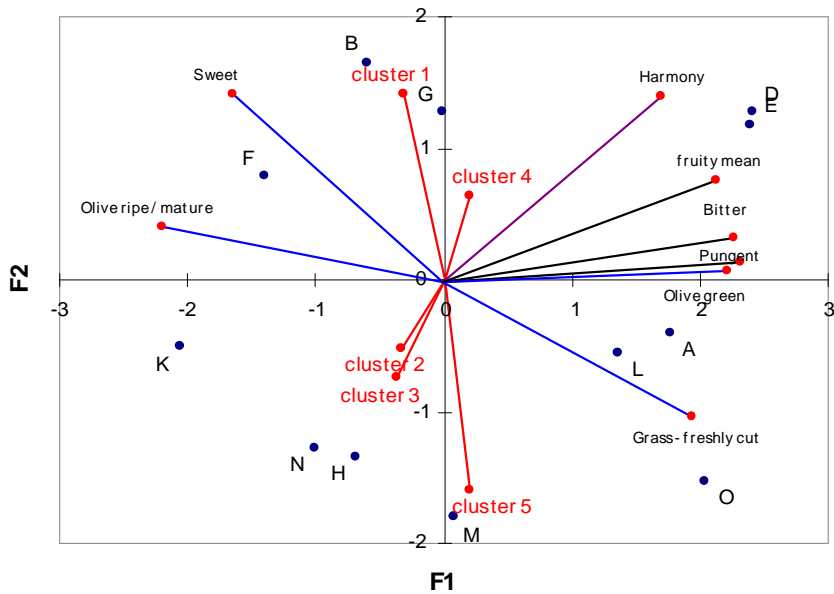
15

April 2nd., 2008 / Bona



7th International Olive Congress - Zurich 2008

Preference map



2008