SOCIETY OF SENSORY PROFESSIONALS

Leatherhead Food Research

Can consumers cope with rapid profiling methods?

An overview of Flash Profile, Napping and PSP

4th SSP Technical and Professional Conference

Tucson, AR, U.S.A. September 17-19, 2014

Key facts

Leatherhead Food Research delivers integrated scientific expertise and international regulatory advice to the global food & drink industry.

- Membership of over 1,500 companies
- Not-for-profit Company
- Independent and confidential
- More than 150 scientists and knowledge experts
- 11,000 m^2 of laboratories, pilot plant, training and conference facilities

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Strategic Platforms

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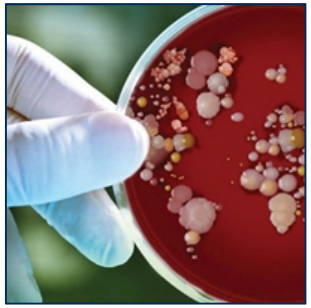
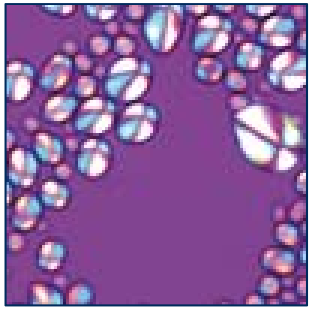


Safety



Innovation



Sensory, Consumer and Market Insight



Regulatory

Nutrition

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Contents

- Introduction of Rapid Methods
- Why use consumers?
- Overview of Rapid Methods and case studies
  - Flash Profiling
  - Napping
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Introduction of Rapid Methods

- Traditional Descriptive Analysis have been considered too time consuming and expensive
- Development of more Rapid Methods
- Most of the Rapid Methods can be performed without prior training
- Simple and flexible alternatives for sensory profiling

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Why use consumers?

- ✓ Economic
- ✓ No training or maintenance of the panel is required
- ✓ Ability to test at different locations
- ✓ Consumer's perception

Case Study

- ❑ More than 40 consumers (per methodology) from West Sussex and Surrey (UK)
- ❑ 11 strawberry jam samples
- ❑ 2 samples were duplicated to check the performance of the consumer panel



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Flash Profile

- Developed in France by Sieffermann (2000)
- Quick way to position a set of products according to their main sensory differences
- Assessors develop their own attributes and rank the products for each attribute

PROS

- ✓ Quick
- ✓ Single session
- ✓ No training required

CONS

- × All samples presented at once
- × Not for large number of samples
- × Difficult with products that require temperature control

USES

- ➢ First stages of a product (NPD in R&D)
- ➢ Products with very short shelf life

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Flash Profile - Case Study 1/2

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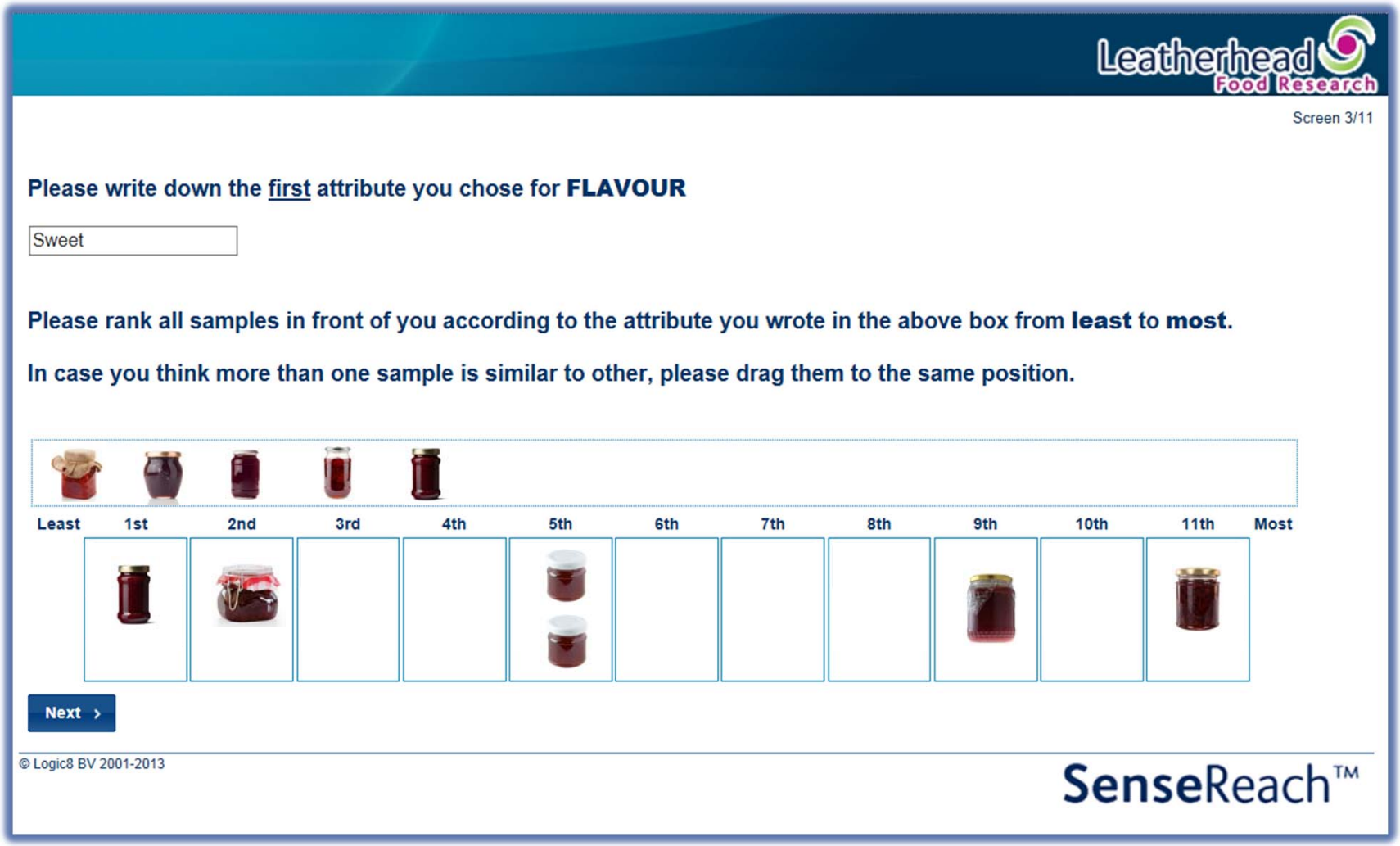

Flash Profile - Case Study 2/2

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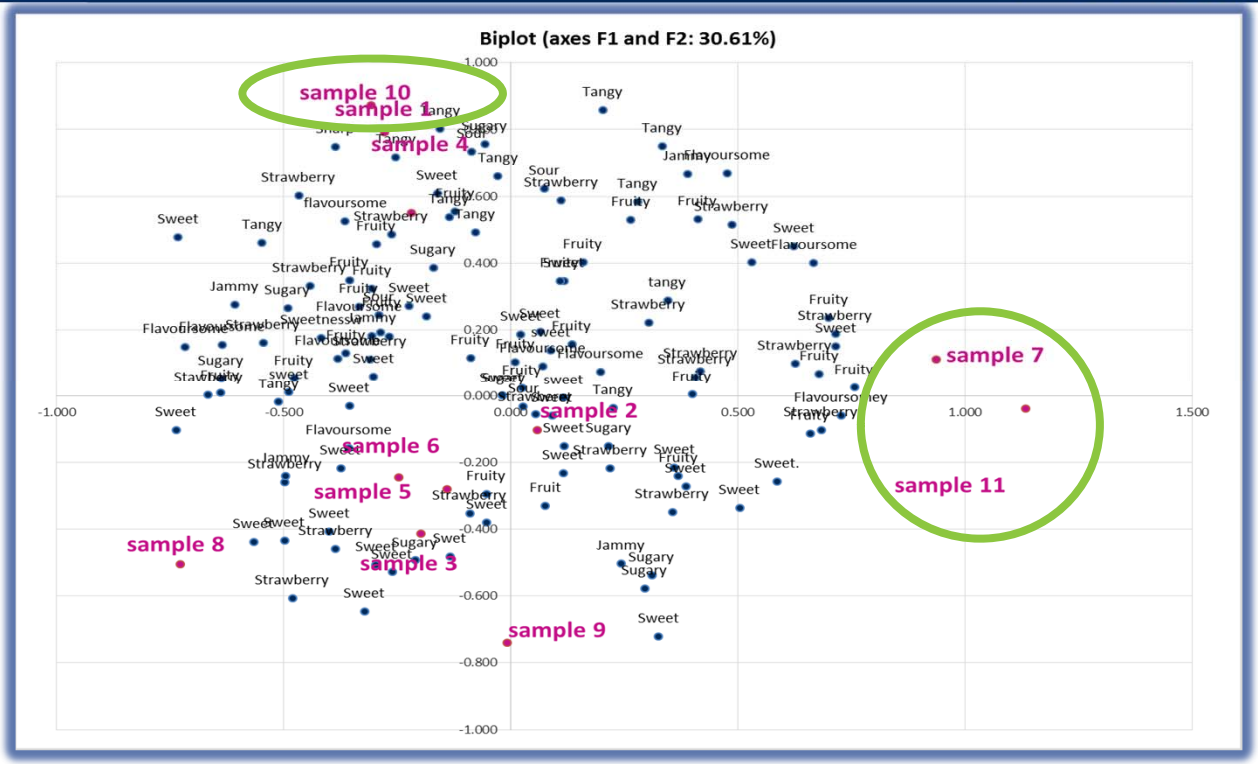
Flavour	Number of respondents using the attribute
Sweet	34
Fruity	24
Strawberry	20
Tangy	12
Flavoursome	10
Sugary	9
Jammy	5
Sour	4
Sharp	1



- Consumers took a bit of time to generate the discriminant attributes and they found it quite difficult
- Ranking of the samples per each attribute generated was easy by consumers
- **Conclusion:** Performance of consumers was very good matching the duplicate samples

Napping

- Comes from “nappe” that means tablecloth in French (Pages 2003, 2005)
- Collects the sensory distance perceived between products by positioning them on a sheet of blank paper
- Assessors decide their own discrimination criteria
- Product descriptions can be added, for example using Ultra-Flash profile

PROS

- ✓ Single session
- ✓ Natural way for consumers to assess products

CONS

- × Poor precision
- × Difficult to carry out with products that require temperature control

USES

- ➢ Prototype assessment and design
- ➢ Pilot in-house “market” tests of new products

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Napping – Case Study 1/2

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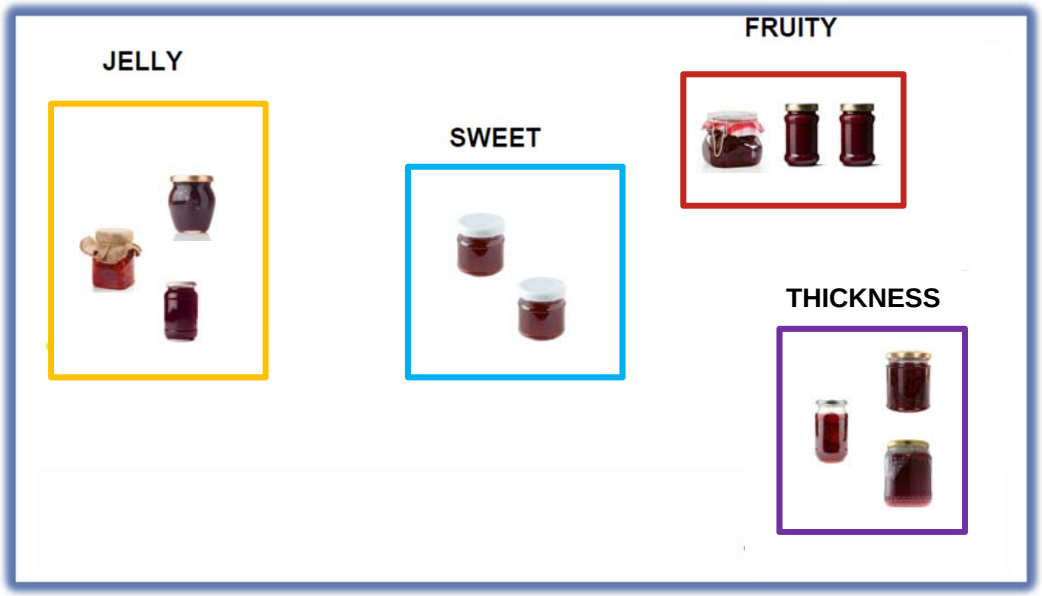
Instructions: Place samples that are perceived to be similar, close to each other and samples that are perceived to be different, far away from each other.



The positioning criteria and their importance are chosen individually by each consumer

Ultra-Flash profile



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Napping – Case Study 2/2

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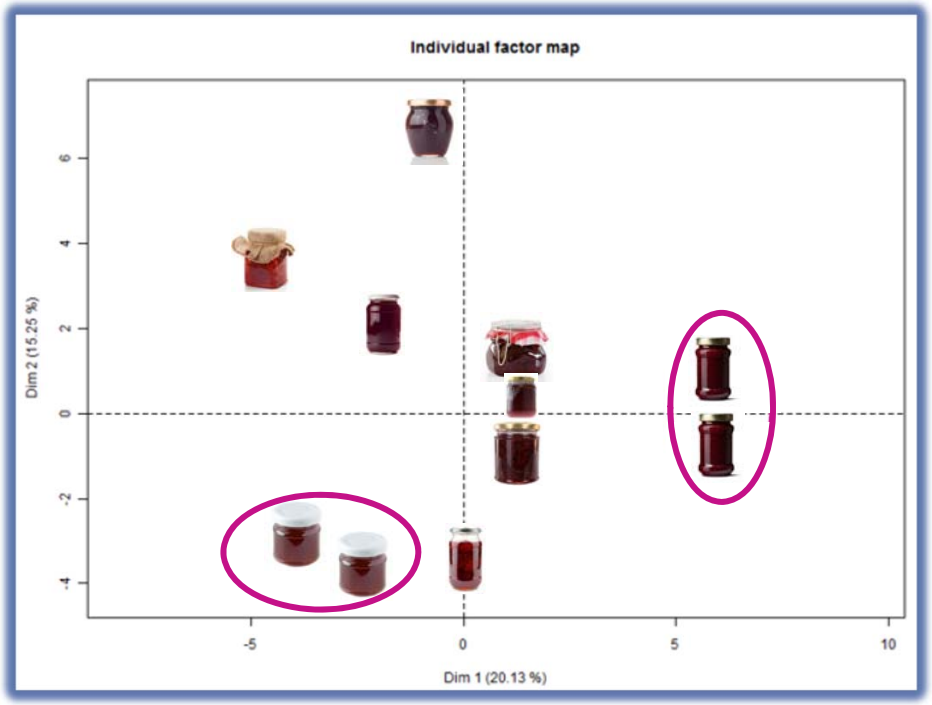

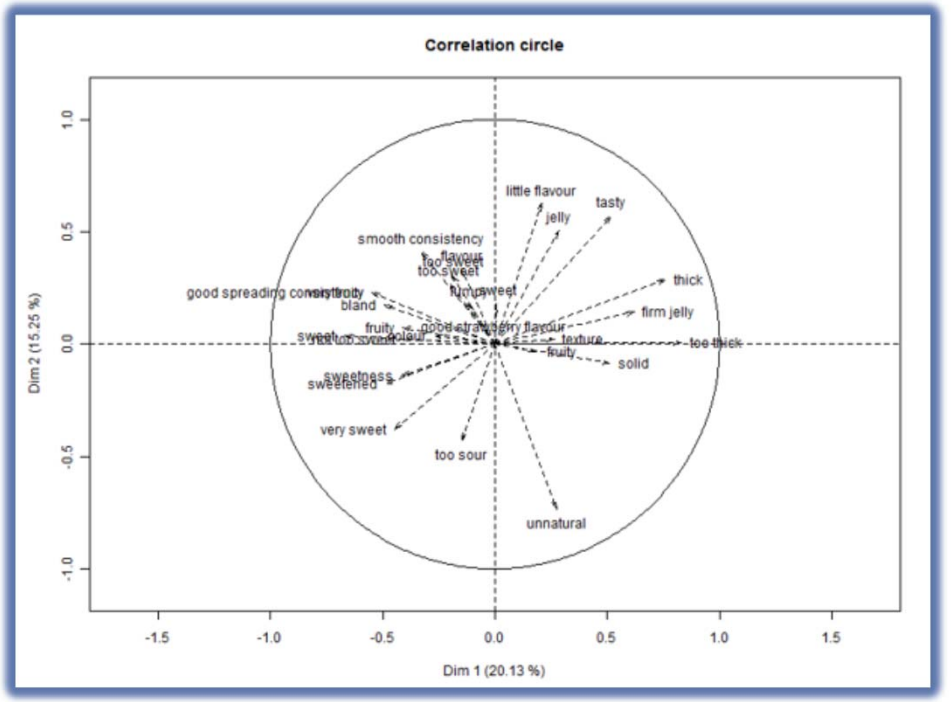

- Consumers found the methodology quite easy to understand
- **Conclusion:** Good performance of consumers placing duplicate samples very close

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Polarized Sensory Positioning (PSP)

- Developed by Eric Teillet and Pascal Schlich in Dijon, France (2010)
- An approach for evaluating the sensory characteristics of products
- Based on the comparison of samples to reference products called “poles”
- Evaluate the overall similarity/dissimilarity between samples and each of the poles

PROS

- ✓ Samples with carryover effects
- ✓ Large number of samples
- ✓ Single or more sessions

CONS

- × Selection of the poles
- × More samples to taste, due to retasting poles

USES

- ➢ Cosmetics, aroma and beverages
- ➢ Behaviour and emotions

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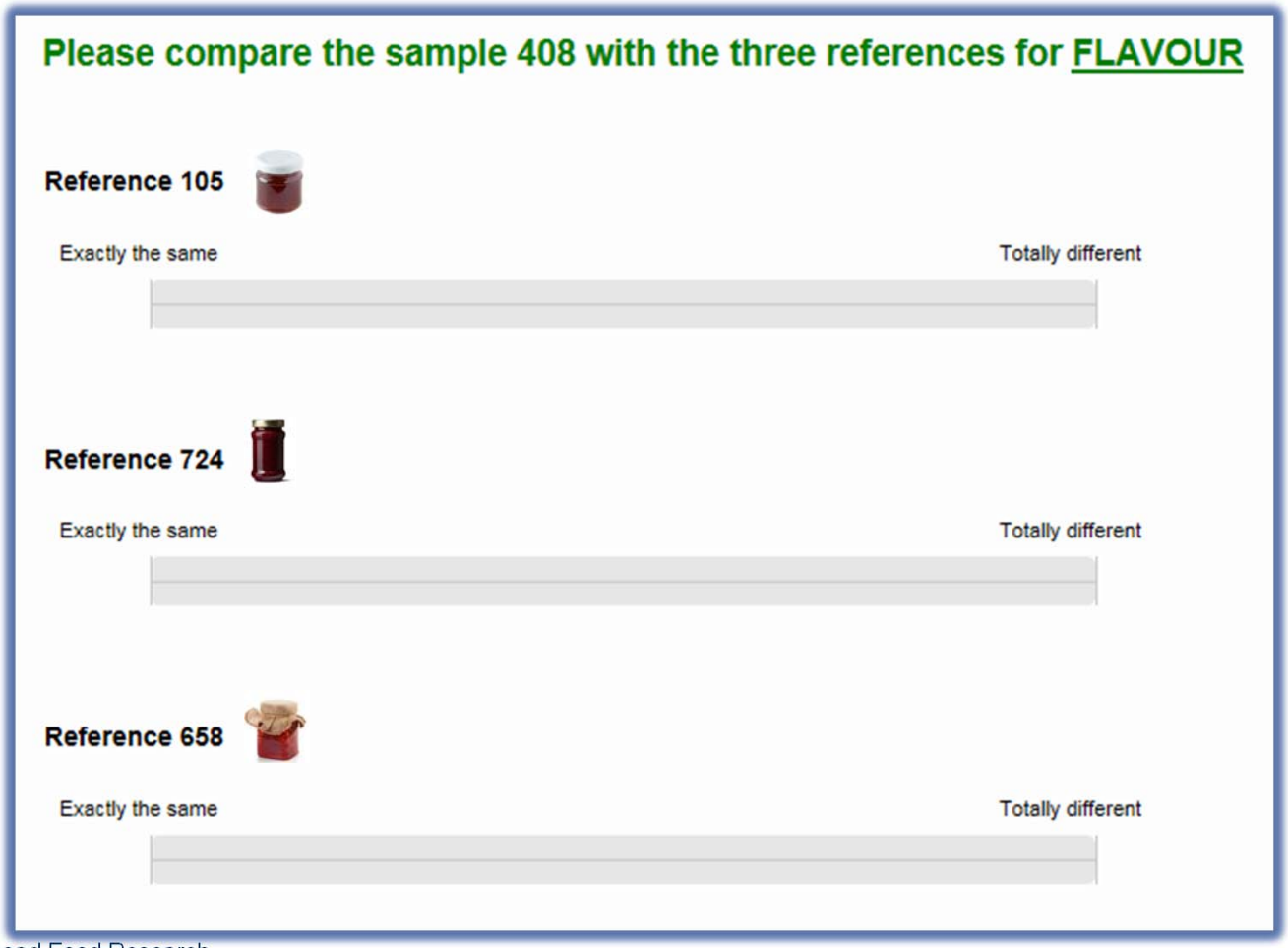
PSP Case Study – 1/2

- 11 strawberry jams samples – two of the samples were duplicated
- 3 references (poles) – they were duplicate of samples



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PSP Case Study – 2/2

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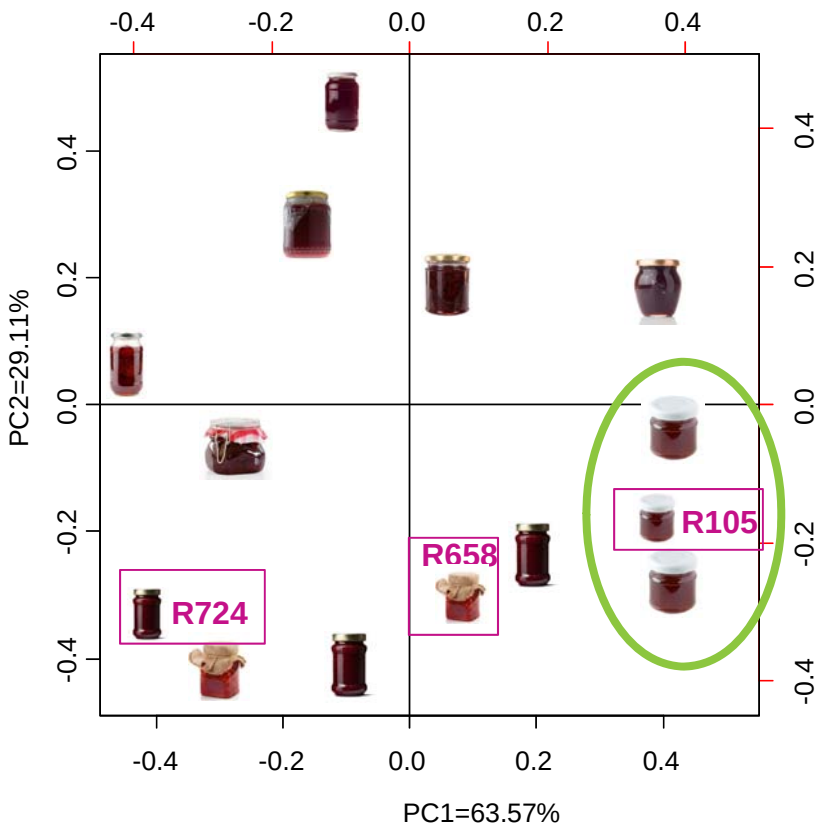

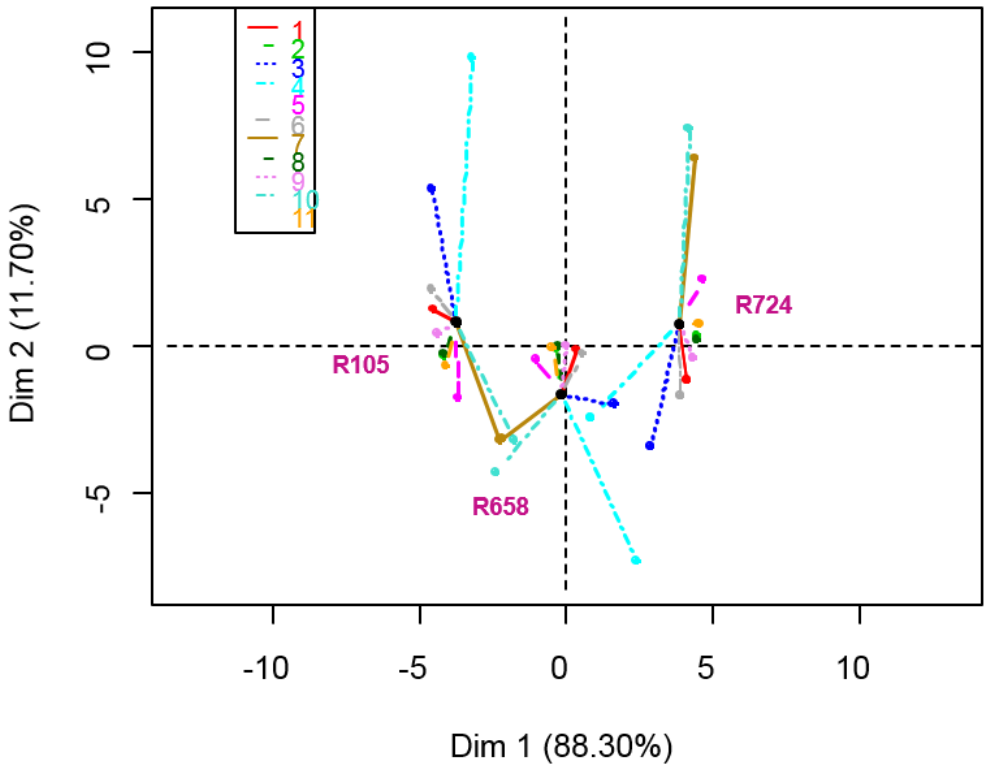

- Consumers found the scale and references quite difficult
- Saturation due to the number of samples may affect the results
- Conclusion: Poor performance of consumers matching only one duplicate (out of 3)

Conclusion

- Good performance of consumers with Flash Profile and Napping but poor performance with PSP
- Depending on the test objective naïve consumers are more or less suitable compared to trained or semi trained panellists
- Consumers will not replace the trained panel!

Leatherhead Food Research is now offering these Rapid Methods

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Thank you for your attention

Any questions?

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