



# Rapid Profiling Techniques - Is There A Future?

Presented by  
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- ❖ **Traditional Descriptive Analysis – what it does and what are the drawbacks**
- ❖ **Rapid Techniques – what do they offer?**
- ❖ **Our Study**
- ❖ **Results**
- ❖ **Points from other rapid profiling research**
- ❖ **Conclusions**

**Complete  
Sensory  
Fingerprint**

- ☐ Complete Sensory Lexicon
- ☐ Panel Consensus

**Traditional  
Descriptive  
Analysis**

**Robust  
Data**

- ☐ Quick Analysis
- ☐ Easy & Quick to interpret
- ☐ Reliable & Actionable Results

**Expensive**

- ☐ Screened & Trained Assessors
- ☐ Require On-going Training
- ☐ Time Consuming

# Rapid Profiling Techniques

❖ Napping®

❖ Sorting

❖ Free Choice Profiling

❖ Flash Profiling

❖ Projective Mapping

❖ Repertory Grid



❖ Less Cost

❖ Reduce Time

❖ Criteria Important to  
the Individual  
Assessor

# Napping® Example

“Evaluate the sample set according to your own criteria.

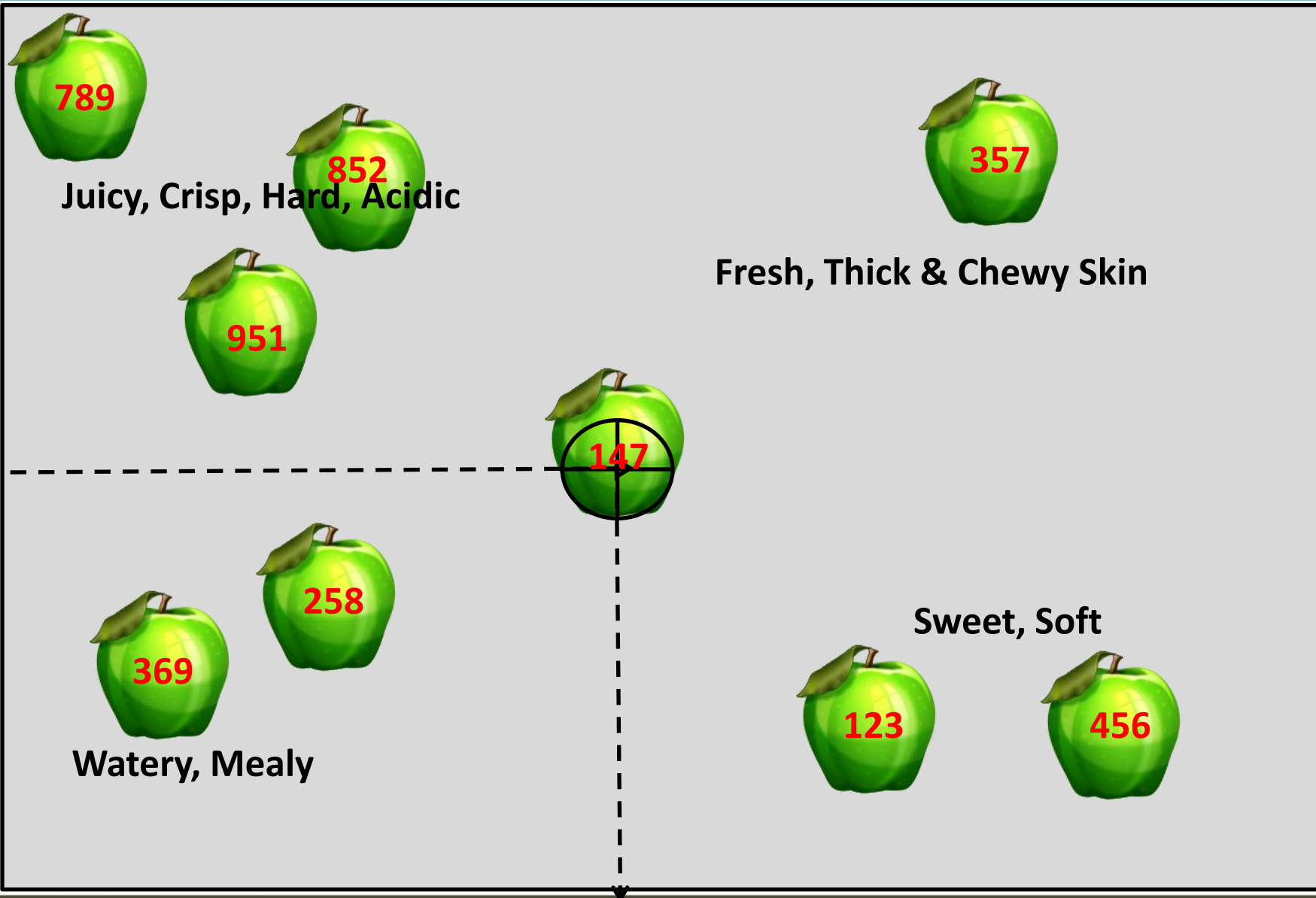
Position the apple on the paper so that two apples that seem identical to you are near one another and those that are different are distant from each other”

← **Nappe/  
Product Space**

**Sample Set**



# Napping® Explained



# Free Choice Profiling Explained

- Evaluate sample set and generate own criteria to evaluate samples
- Rate each sample for each attribute generated



**Sweetness**

Not



Very

**Crunchiness**

Not



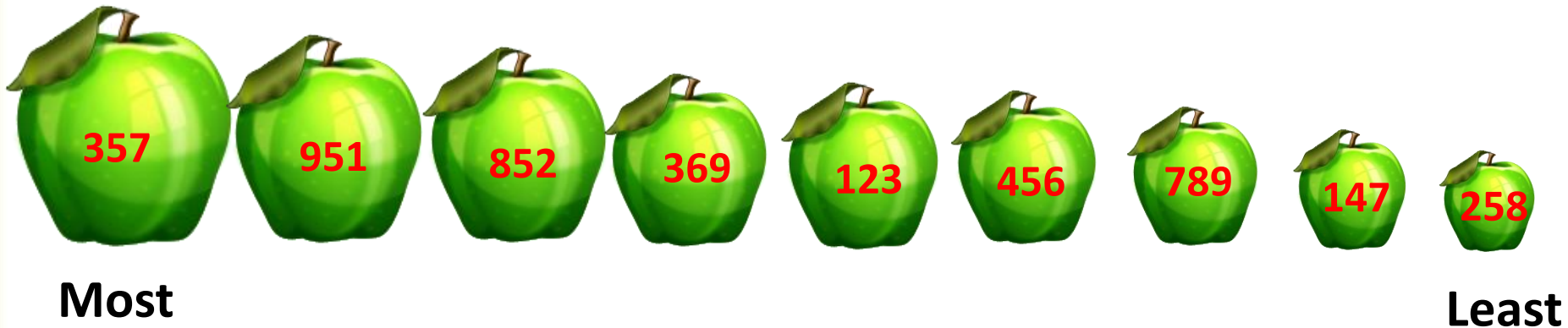
Very



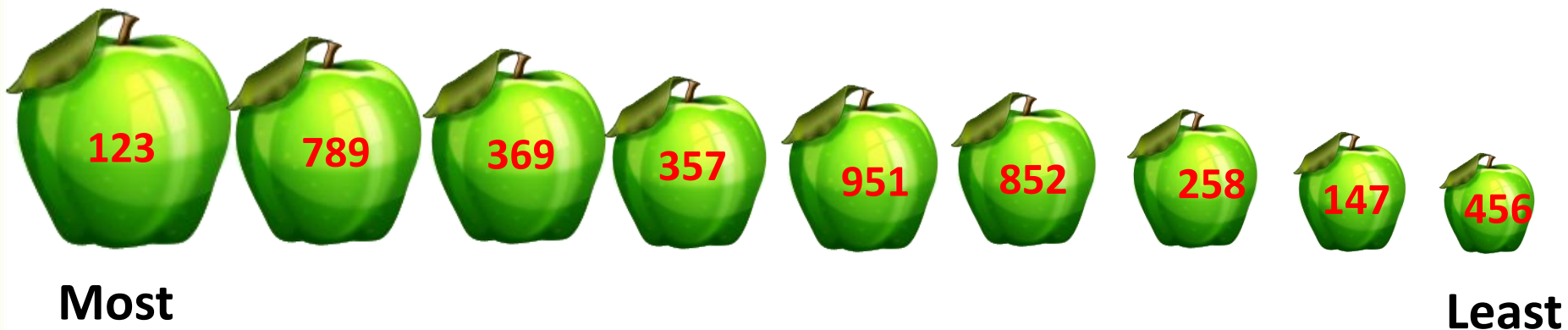
# Flash Profiling Explained

- Evaluate sample set and generate own criteria to evaluate samples
- Rank samples in order of intensity for each attribute

## Sweetness



## Hardness





❖ **Trained Sensory Panellists**

❖ **Industry Experts**

❖ **Consumers**



- ☐ **Abundant**
- ☐ **Relatively Cheap**
- ☐ **Business Needs**

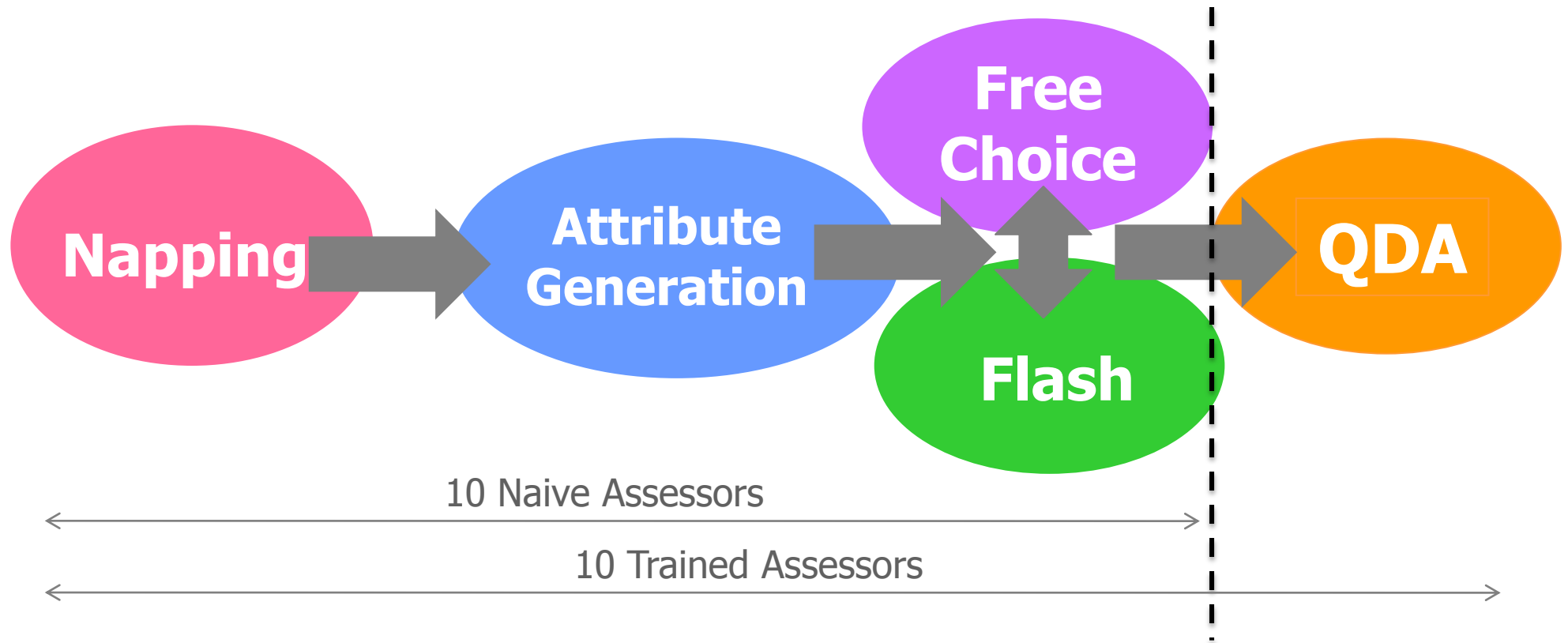
❖ **Culinary Professionals**

The study set out to answer several key questions.

- How effective are these rapid techniques compared to traditional Descriptive Analysis using an experienced trained panel?
- How well does a naïve panel (consumer panel) perform using the rapid profiling techniques?
- How do the two panels compare?

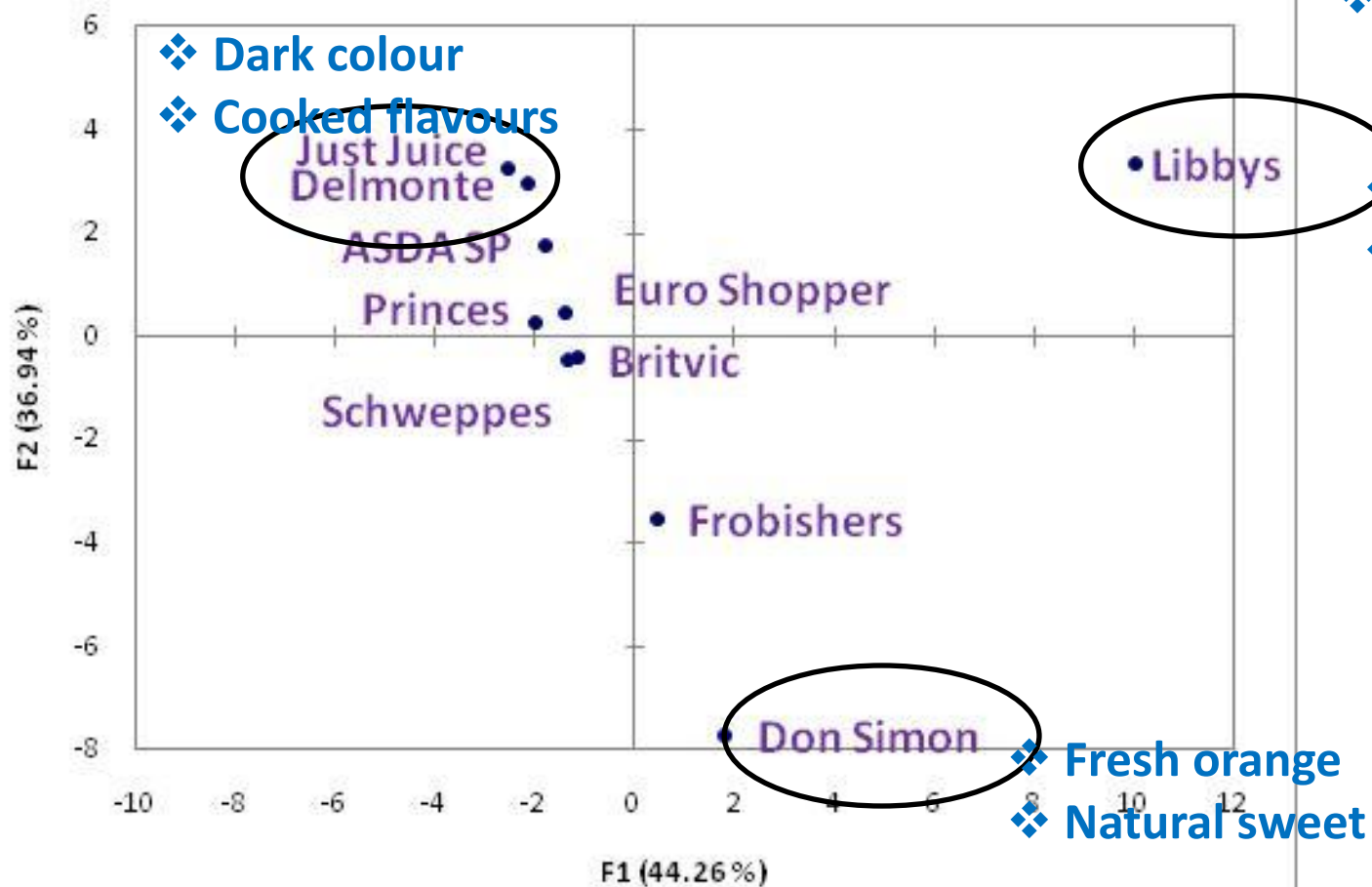
# Products Assessed





# QDA Results

QDA Trained Panel

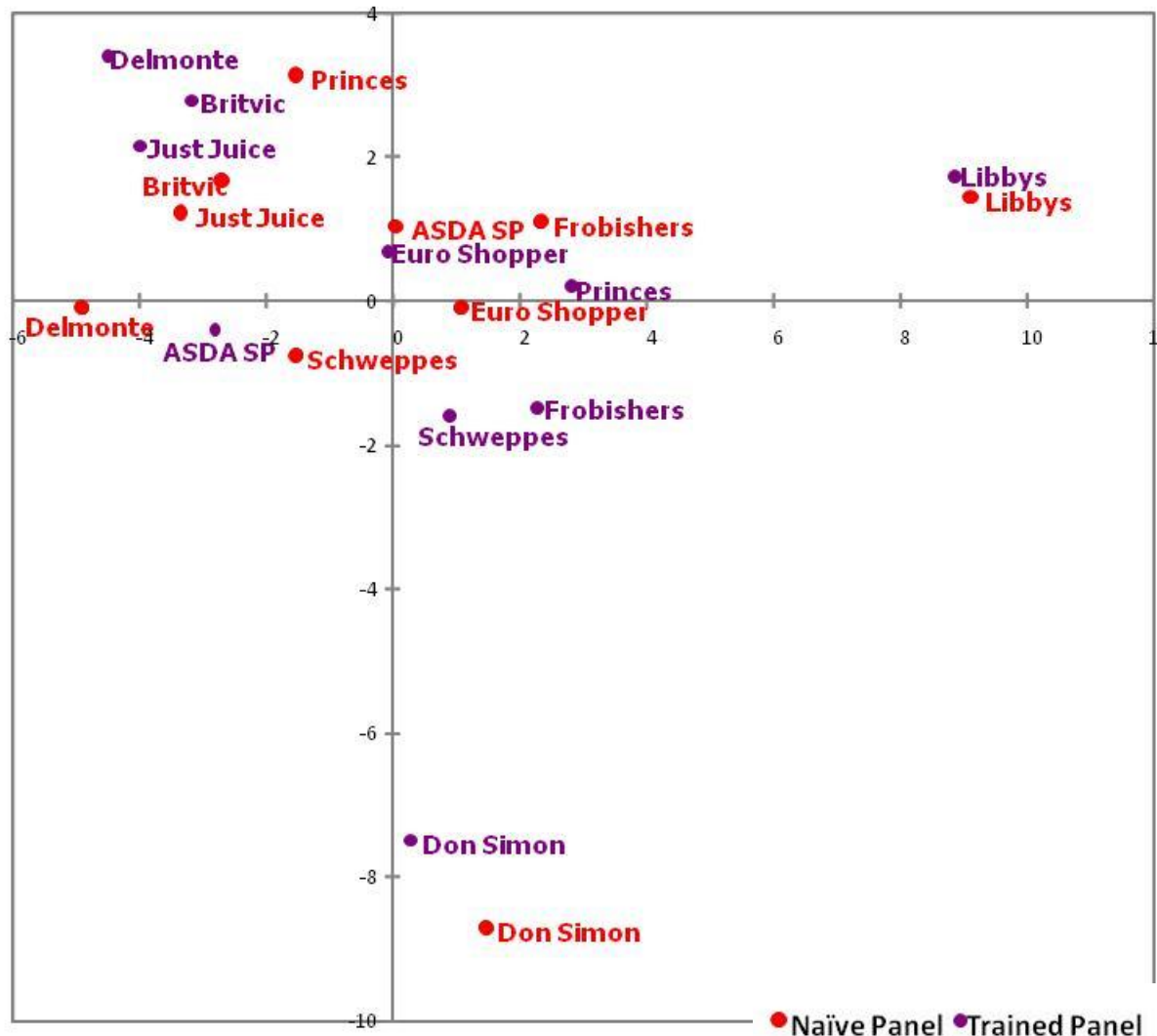


- ❖ 32 attributes
- ❖ 28 attributes  $p < 0.05$



# Napping Results

Napping Trained and Naïve Panels



## ❖ Similar configuration

### Trained Panel:

- ❖ 21-62 attributes generated
- ❖ 25 attributes common
- ❖ Individual modality maps showed greater discrimination

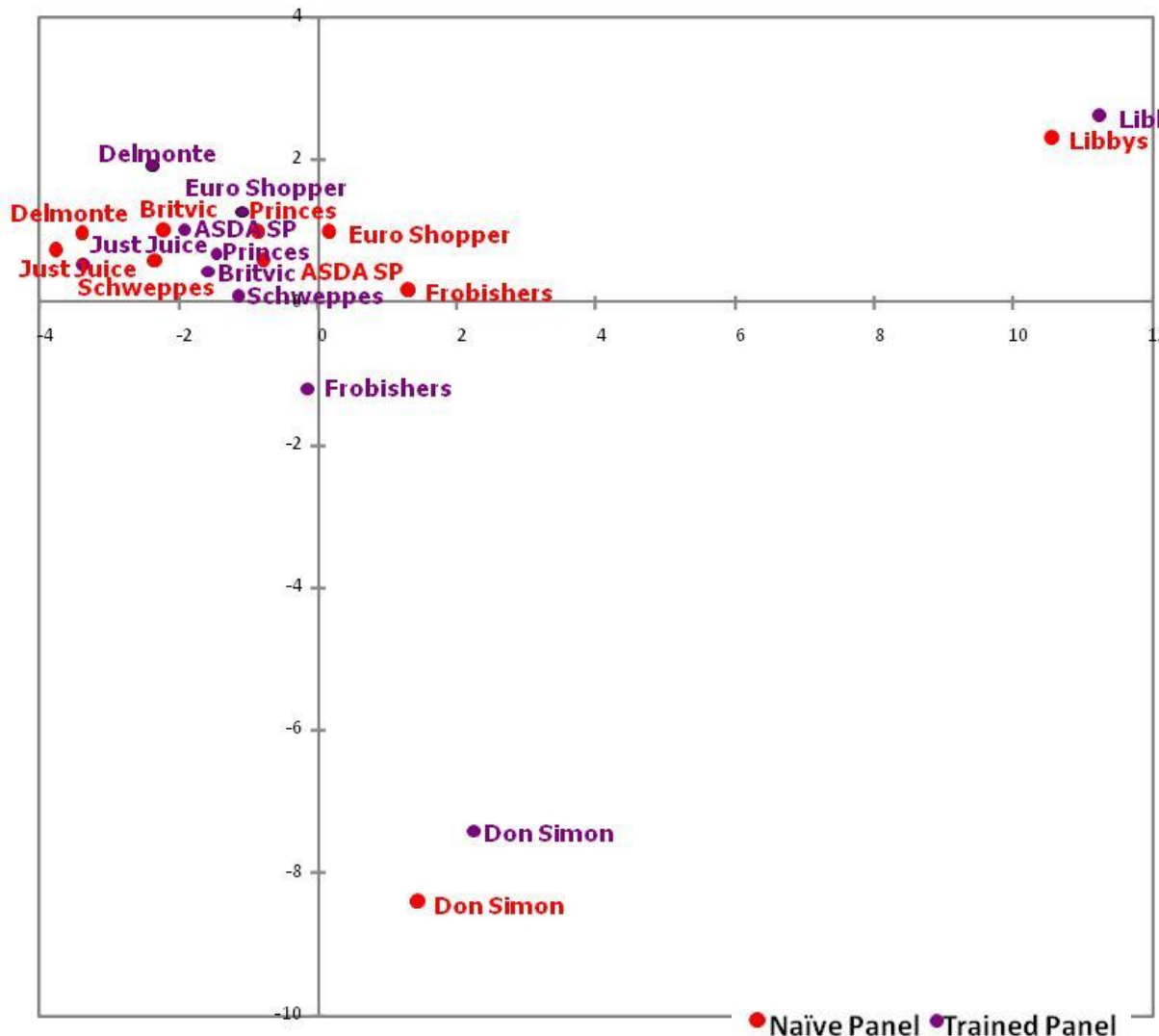
### Naïve Panel:

- ❖ 32-91 attributes generated
- ❖ 21 attributes common
- ❖ More appearance attributes



# Flash Results

Flash Profiling Trained & Naïve Panels



❖ Similar configuration

Trained Panel:

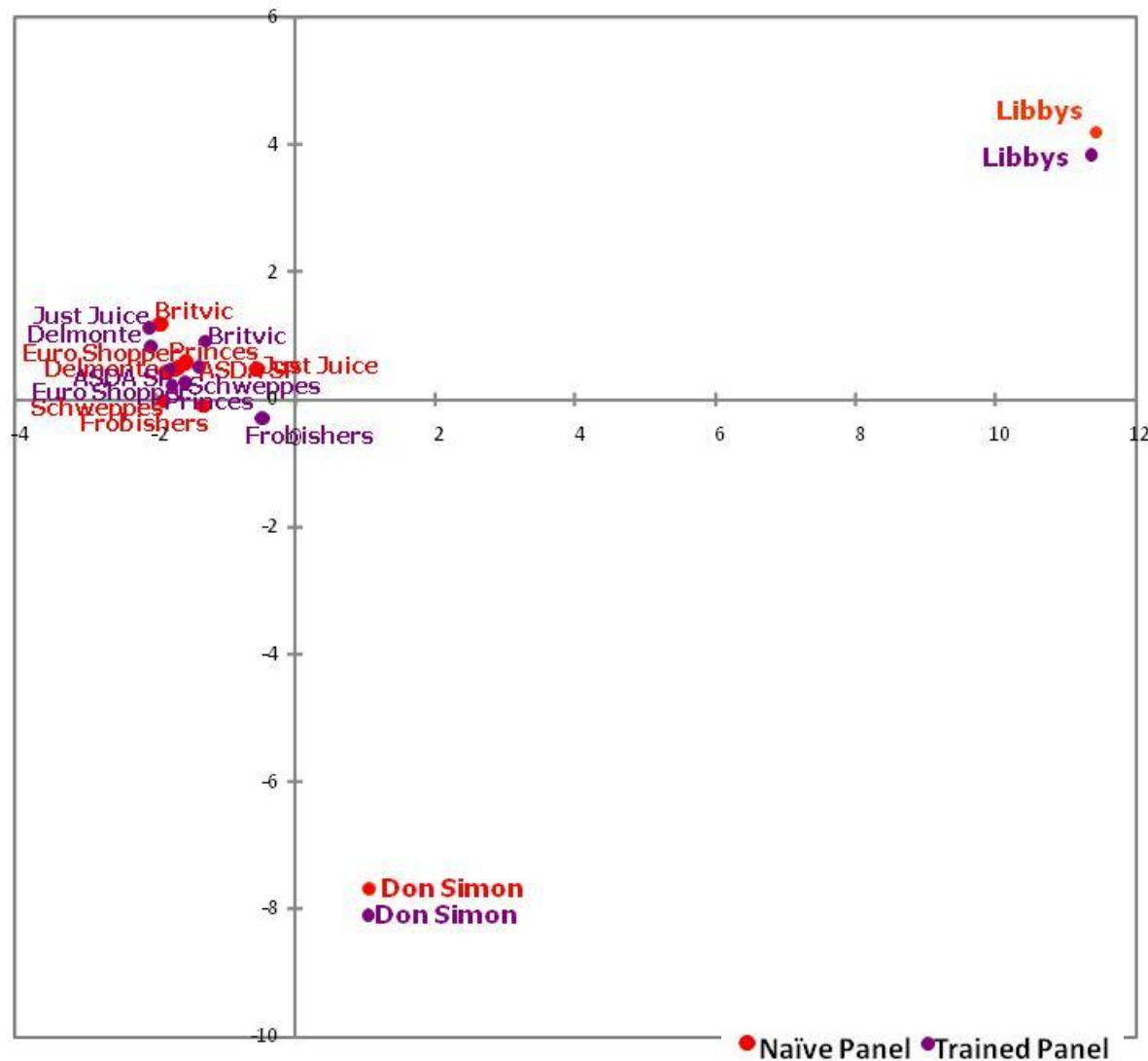
- ❖ 23-51 attributes generated
- ❖ 24 attributes common

Naïve Panel:

- ❖ 16-55 attributes generated
- ❖ 23 attributes common

# Free Choice Results

Free Choice Profiling Trained & Naïve Panels



❖ Similar configuration but less discriminating than Flash profiling

Rapid Technique	RV Coefficient with TDA configuration
Trained Flash	0.92
Trained Free Choice	0.89
Naive Free Choice	0.86
Naive Flash	0.85
Naive Napping	0.73
Trained Napping	0.69

- ❖ Flash & FCP more comparable to traditional method
- ❖ Trained Panel: Flash superior to FCP
- ❖ Naive Panel: FCP superior to Flash
- ❖ Naive panel better at Napping

## Free choice

- Quick attribute generation sessions
- No descriptions or consensus for attributes
- Initial use of line scales easy to understand.
- Specialised statistics

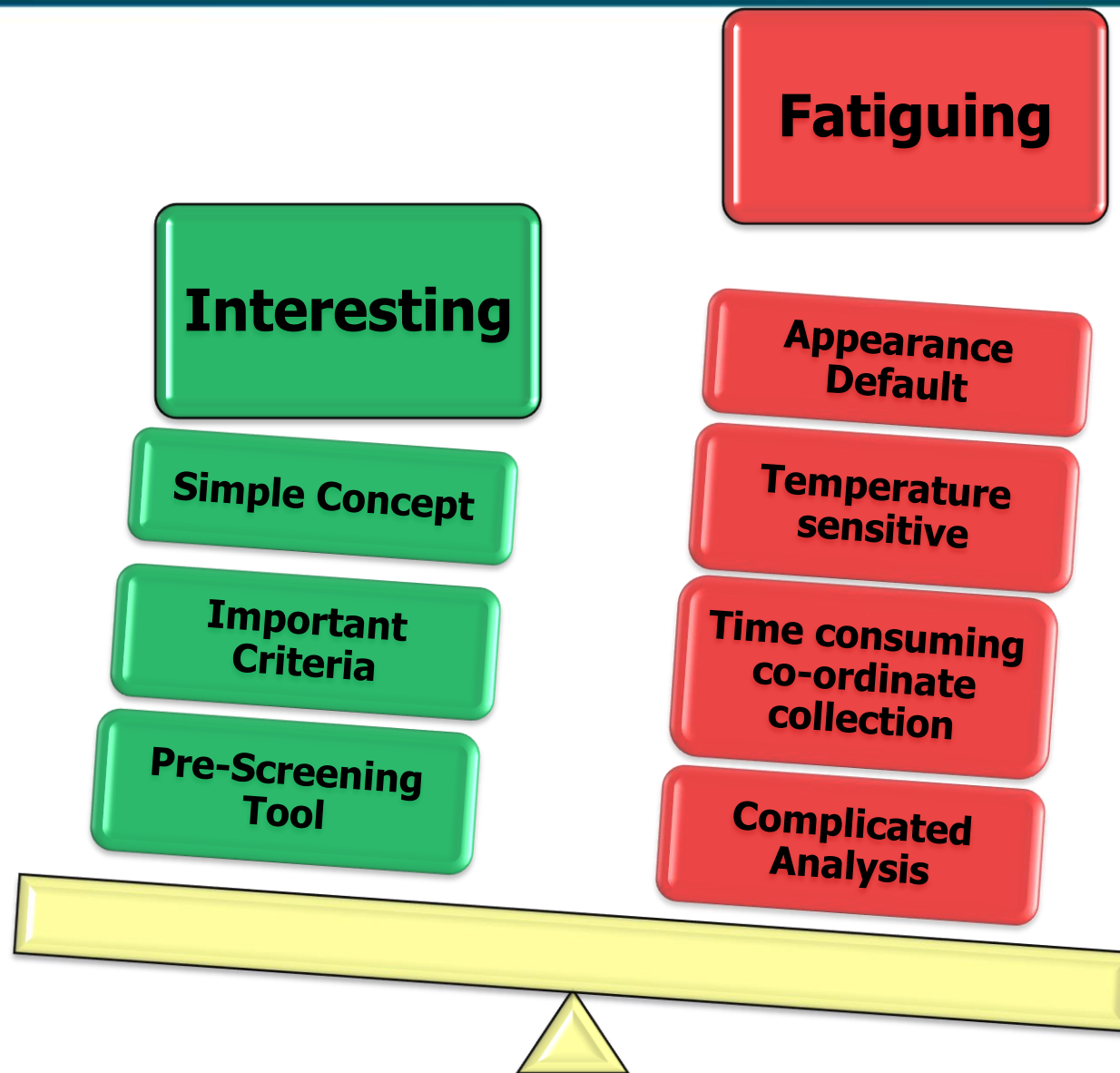
## Flash

- Quick attribute generation sessions
- No descriptions or consensus for attributes
- Easy to rank
- Palate fatigue
- Temperature stable
- Specialised statistics

## Traditional DA

- In-depth training sessions
- Detailed descriptions for attributes
- Panel consensus
- Reliable & Accurate use of line scales require training
- Any temperature
- Quick analysis
- Easy interpretation & communication

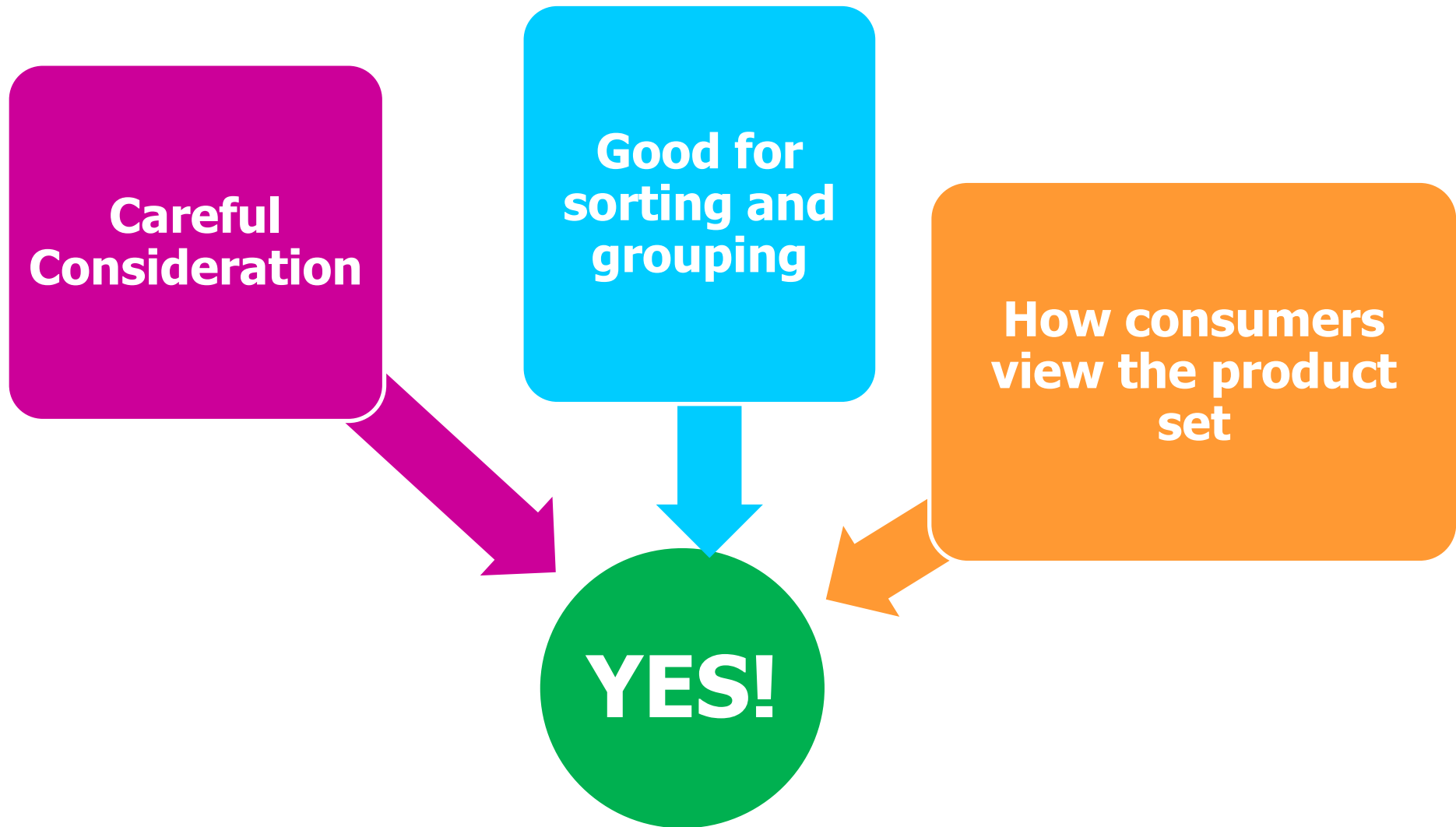
# Napping: Advantages & Disadvantages





**So, .... Is there a future for  
rapid techniques?**





Pagès, 2005 J. Pagès, Collection and analysis of perceived product inter-distances using multiple factor analysis: ◀Application▶ to the study of 10 white wines from the Loire valley, ◀Food▶ Quality and Preference 16 (2005), pp. 642–649.

Delarue and Siefffermann, 2004 J. Delarue and J.-M. Siefffermann, ◀Sensory mapping▶ using ◀flash▶ profile. Comparison with conventional descriptive method for the evaluation of the flavour of fruit dairy products, ◀Food▶ Quality and Preference 15 (2004), pp. 383–392.

Williams and Langron, 1984 A.A. Williams and S.P. Langron, The use of free-choice ◀profiling▶ for the evaluation of commercial ports, Journal of Science of ◀Food▶ Agriculture 35 (1984), pp. 558–568.