THE PURPOSE OF SENSORY ANALYSIS in R & D

- DERMO-COSMETIC -

PIERRE FABRE RESEARCH INSTITUTE

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R & D in a “Non Food” Industry

1. Formulation of new cosmetic products: Research of active ingredients, raw materials, … following regulatory affairs …

2. Safety assessment at several levels: toxicology, pharmacology, chemical analysis, microbiology, …

3. Clinical Evaluation of formulation:
   - Sensory Analysis
   - Use-Tests
   - Safety and Efficacy Tests
   - Clinical Tests

4. Manufacturing
Summary

1. What is Sensory Analysis in Cosmetology

2. Main Sensory Assessments and Profile

3. Applications

4. Conclusion
Sensory Analysis,

Why?

⇒ to understand the expectations of consumers and offer targeted products according to their needs and their likings

Who is interested in?

⇒ the Development teams: defining the adapted organoleptic criteria and forecasting the consumer’s satisfaction

⇒ the Marketing teams: supporting the purpose of the products

⇒ the Quality Control teams: comparing to a reference
What is Sensory Analysis?

The tool of **comparative** methods which enables to evaluate the products organoleptic criteria by using the five senses:

- **SMELLING** *(perfumes, odors, …)*
- **HEARING** *(closing packaging, …)*
- **TASTE** *(flavor, aroma of a lip stick, …)*
- **SIGHT** *(skin color, product color on the skin of make up, …)*
**Sensory Analysis, HOW?**

As in Food Industry, according to the questions, the protocols and the human panels are different:

<table>
<thead>
<tr>
<th>Do differences exist between the products?</th>
<th>How are these products different?</th>
<th>Which one do you prefer? How much do you like them?</th>
</tr>
</thead>
<tbody>
<tr>
<td>- pair-tests, triangle-tests, 2 by 5-tests</td>
<td>Describe and quantify the differences</td>
<td>- Preference tests</td>
</tr>
<tr>
<td>- ranking-tests « semi-trained » panel &gt; 36</td>
<td>« SENSORY PROFILES » « experts » Panel &gt; 15</td>
<td>- Use tests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clinical acceptability « naïve » targeted panel &gt; 60</td>
</tr>
</tbody>
</table>

**DISCRIMINATIVE TESTS**

**DESCRIPTIVE TESTS**

**HEDONIC TESTS**
USE-TESTS

« Pleasure » assessment during using period by “naïve” panels, targeted on their using consumptions

= hedonic profile =

 Satisfaction % according to standards established in the Pierre Fabre database
PERFUMES SELECTION

- Preference tests (ranking)
- Evocation
- Quality Control
Descriptors and Sensory Profile

The listing of terms necessary to describe cosmetic products is established in consensus for each product type:

- hygiene, body, face, hair care...

- At application
- Just after application
- Long time after application
- Quantified and measured using un-structured scales

very weak / ________________________________ / very strong
Sensory PROFILE

Image of 2 body care products

• Comparison = similarities and differences on each descriptor
• statistical tests, ANOVA descriptor by descriptor at 5 % threshold
STATISTICAL METHODES

- Statistical Mean Comparisons
- Principal Component Analysis on direct values or on differences
- Use-Preferences assessment (ranking)
  - Preference Mapping
    - Time intensity
  - Textual Analysis
APPLICATIONS

Overall dermo-cosmetology can be set up on:

- Skin care textured products for face and body
- Hygiene
- UV-screen care
- Make-up foundation
- Hair care
- Men-shaving care
- Topical drugs
Application of a treating lotion
Application
POURING OUT
Massage of scalp
Cotation by trained hairdresser

WETNESS
OILYNESS
STICKYNESS
SUPPLENESS
Conclusions

Taking into account sensory dimension early in the cosmetic development

✓ anticipate consumers’ desires in textures

A Development Methodology

helping to formulate more pleasant products, responding to consumers comfort expectations,
increasing observance and thus more efficiency.

Nowadays, until 2001, these studies have been included in COLIPA guidelines to prove efficiency of dermo-cosmetic products
Thank you very much for your attention

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