STUDY OF THE PERCEPTION OF A LIQUID AND TRANSLUCENT HONEY VERSUS CREAMED HONEY IN FRANCE

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Context of the study

• Honey: two modes of consumption:
  – Liquid form
  – Creamy form

\[50\% \text{ Each one} \]^{[1]}

Production of clear and creamy honey by HSP[2]

- Separation of raw honey under two phases modifying sugar equilibrium

Scientific Objectives

• Are there differences in sweet taste between the two products?

• Compare subject assessment for honey under various forms (raw, liquid, creamy) through 5 visual and gustatory descriptors:
  
  - ✓ Color
  - ✓ Consistency
  - ✓ Mouth feel
  - ✓ Global taste
  - ✓ Overall assessment
Materials and methods

• **Honey:** sunflower honey from « la miellerie des Fontenelles », Vendée, France ; treated in the ONIRIS laboratory by the Honey Split Process (HSP).

• **Panel:** 60 people*, 70% women and 30% men, 67% between 18 and 25 years old, 15% between 26 and 35 years old, 2% between 36 and 45 years old, 10% between 46 and 65 years old.

• **Analysis:** seven sessions of 45min each in the ONIRIS sensory analysis room, on January 27th 2012.

*minimal number of participants needed to ensure statistical validity of the study according to the French norm AFNOR XP V09-501
Sample sweetness → Ranking test

Consumer’s preferences → Hedonic test*

- Color
- Consistency
- Taste
- Mouth feel
- Overall assessment

*Data processing: Analysis of variance (ANOVA), Two-factors without repetition
Results for the sweetness taste

- Liquid honey: 2.45
- Raw honey: 2.07
- Creamed honey: 1.48

Fig. 1: ranking test average results for each product

LSD test: NON significative
LSD test: significative
Hedonic test: Average ranking of the five descriptors for the three samples
Product effects for the five descriptors

<table>
<thead>
<tr>
<th>Descriptors</th>
<th>Fisher’s theoretical coefficient</th>
<th>Fisher’s coefficient</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>3.07</td>
<td>1.36</td>
<td>Negative</td>
</tr>
<tr>
<td>Consistency</td>
<td></td>
<td>1.87</td>
<td>Negative</td>
</tr>
<tr>
<td>Mouth feel</td>
<td></td>
<td>0.30</td>
<td>Negative</td>
</tr>
<tr>
<td>Taste</td>
<td></td>
<td>0.13</td>
<td>Negative</td>
</tr>
<tr>
<td>Overall Assessment</td>
<td></td>
<td>0.25</td>
<td>Negative</td>
</tr>
</tbody>
</table>
The difference of sweet taste between creamy and liquid honey induced by the process is significantly felt by consumers.
HEDONIC TEST
ALL EFFECTS ARE NEGATIVE

No alteration of the product feeling is engendered by the process whatever the phase tested was
Complete this study with:

• Other consumption modes

• Other honeys
ACKNOWLEDGMENTS

- All the panel members
- Beekeepers